Supply and Demand for Interpreters for the Deaf and Hard of Hearing in Michigan

Prepared for
Michigan Department of Labor and Economic Growth, Division on Deaf and Hard of Hearing
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Introduction

The No Child Left Behind Act (NCLB) of 2001 has brought new challenges to deaf and hard of hearing education in Michigan. A number of new and more stringent criteria regarding the provision of education, the qualifications of educators in the classroom, and the test results that will be used to determine the progress that has been made are being phased in over a number of years. Among these criteria, interpreters for the deaf and hard of hearing that are employed in public education will be required to have no less than a two-year post-high school degree by the year 2008 and at least a four-year college degree by the year 2012. In addition, the Division on Deaf and Hard of Hearing in the Michigan Department of Labor and Economic Growth and the Michigan Department of Education are promoting adoption of more stringent certification requirements for both K-12 school interpreters and community interpreters. Implementation of the Educational Interpreter Proficiency Assessment (EIPA) will require interpreters for the deaf and hard of hearing who are working in K-12 education to have specific training in education of deaf and hard of hearing children[1] and to be certified. If enacted, currently employed interpreters in K-12 education will have five years to acquire the requisite knowledge and skills and to pass the test. In addition, community interpreters will be required to be nationally certified or to have Michigan QA II or QA III certification.

Although EIPA is intended to improve the quality of interpreting for deaf and hard of hearing students, it has been suggested that the imposition of these guidelines may create severe difficulties for Michigan schools to recruit and retain adequate numbers of highly qualified interpreters. It is generally accepted among educators of the deaf and hard of hearing and members of the deaf and hard of hearing community that highly qualified interpreters are currently in short supply in Michigan, and it is uncertain whether or not Michigan's three officially recognized interpreter training programs (ITPs)[2] are likely to provide enough new interpreters in the near future to meet the potential demand.

[1] References to deaf children in this report include all deaf and hard of hearing children who receive educational services related to their deafness.

[2] Interpreter education programs are offered at Madonna University (four-year program), Lansing Community College (two-year program), and Mott Community College (two-year program). Interpreter classes are also currently being offered at Oakland Community College (OCC), although OCC does not offer a degree in interpreting for the deaf and hard of hearing.

As interpreters are integral to the success or failure of deaf and hard of hearing students, it is important to note that NCLB regulations regarding the completion of a formal degree by interpreters for the deaf and hard of hearing do not require that interpreters have any formal training as interpreters for the deaf and hard of hearing. EIPA, therefore, has been proposed to ensure that Michigan school districts comply with all future NCLB educational requirements and Michigan Department of Education administrative rules for interpreters for deaf and hard of hearing students and also to ensure that interpreters for deaf and hard of hearing students in Michigan schools are appropriately educated and certifiably qualified in order to provide interpreter services to deaf and hard of hearing children.

The purpose of this study is to provide background information for use in consideration of changes in federal law and associated state administrative rules that are intended to provide equal access for deaf and hard of hearing students to all educational opportunities through employment of qualified interpreters in Michigan schools. Specifically, this study is concerned with the current and future supply and demand for qualified interpreters for the deaf and hard of hearing in Michigan, as well as consideration of the impact changes in the requirements for interpreters for the deaf and hard of hearing may have for both the supply and demand for qualified interpreters in the future. The supply and demand for interpreters, however, is not simply a matter of tabulating the number of current interpreters available in Michigan and identifying the number of new graduates from Michigan's three ITPs each year. In addition to examining those factors, this study is also concerned with identifying changes that are occurring in Michigan's deaf and hard of hearing community and the impacts these changes may be having on communication opportunities for deaf and hard of hearing people within both education and other settings. These factors, in turn, will undoubtedly have considerable impact on the future supply and demand for interpreters for the deaf and hard of hearing in Michigan

Background

Interpreters for the Deaf and Hard of Hearing

Interpreting may be defined as receiving a message in one language and delivering it in another. Sign language interpretation or interpreting for the deaf and hard of hearing, however, involves a complex process of translation that requires linguistic, cognitive, technical, and analytical skills.

Professional sign language interpreting requires extensive training and practice; knowing both sign language and English does not qualify a person as an interpreter. Most interpreters have completed a college or university program and many have passed national certification exams and, thus, are certified to interpret. Additionally, it is important that interpreters have an extensive knowledge and understanding of the deaf and hard of hearing community and culture (Registry of Interpreters for the Deaf, Inc., "Professional Sign Language Interpreting").

Interpreters for the deaf and hard of hearing are utilized in a variety of situations, including workplace, medical, and educational settings. Included in the various types of deaf interpreting are oral transliteration, deaf-blind interpreting, video relay service, and cued speech interpreting. Oral transliterators, also known as oral interpreters, facilitate spoken communication between those who are deaf or hard of hearing who use speechreading—also known as lipreading—as their preferred mode of communication and those who hear; oral interpreting does not commonly include the use of sign language with the speechreading person. To facilitate communication, the interpreter will clearly and silently repeat what a speaker is saying to the deaf or hard of hearing person. Often oral transliterators will also act as a "voice" for those who do not use a voice or are difficult to understand. Oral transliterators are utilized in situations where it would be difficult for a deaf or hard of hearing person to understand a speaker, such as in a large group or at a meeting.

There is a wide continuum of the degree of vision and hearing loss a deaf-blind individual may have—some deaf-blind individuals have a substantial amount of vision and/or hearing while some have little to none at all. Because of this, several modes of communication are utilized in deaf-blind interpreting and vary from person to person. Deaf-blind interpretation generally consists of tactile sign (signing received by sense of touch with the hands), print-on-palm (block letters drawn onto the palm), production of a Braille transcript, or speechreading at a very close range. Not all interpreters are qualified to interpret for deaf-blind people; because of the special circumstances and varied modes of communication, deaf-blind interpretation is a highly specialized area.

Video relay service (VRS) is a form of communication that allows a deaf or hard of hearing individual who uses sign language to communicate with voice telephone users using video

conferencing equipment rather than the traditional Tele Typewriter (TTY) method. On one side of the line, a hearing person can speak into the telephone; when the voice message is received by an intermediary interpreter, he or she relays the message via sign language into a video camera. The signed message is then received by the deaf or hard of hearing individual who is watching on a video monitor. VRS is an emerging and highly popular interpreting service because it allows both the hearing and deaf and hard of hearing individuals to communicate using their preferred mode of communication. VRS is also a faster form of communication; many report communication time is cut in half with VRS versus TTY.[3]

Educational Interpreters

Education for the deaf and hard of hearing is an ongoing controversy in the deaf and hard of hearing community. This controversy concerns whether it is better for deaf and hard of hearing children to be "mainstreamed" (or included within standard classrooms) or whether they should be enrolled in schools that are designed specifically for deaf and hard of hearing students. In schools for the deaf and hard of hearing, children are educated primarily through American Sign Language (ASL)—what many deaf and hard of hearing people and educators of deaf and hard of hearing students consider to be the "natural language of the deaf," with little to no need for interpreters as almost all participants—students and faculty alike—communicate using ASL. In contrast, interpreters are an integral part of a student's success in the mainstreamed or inclusion classroom.

Educational interpreters may take on a variety of activities. Not only are they the primary means of communication between deaf and hard of hearing students and hearing students and teachers, but they also often play an integral role in other aspects of a deaf or hard of hearing student's education. Educational interpreters (K-12) may act as tutors for their students. When the subject matter is unclear to the student, the interpreter may offer further clarification and academic coaching. Moreover, interpreters also oftentimes offer clarification if a teacher's instructions are unclear to the deaf or hard of hearing student.

[3] It should be noted that TTY and relay services are not likely to be eliminated in the foreseeable future, however, as deaf and hard of hearing people who do not use sign language often rely on TTY and relay services for communications. Adult deaf and hard of hearing people who do not use sign language tend to be older individuals who did not have the opportunity to learn sign language when they were children or young adults.

Some educational interpreters may complain of being expected to perform duties for which they are not qualified or that are not within their job description. For example, an interpreter that is tutoring a student may not be qualified to teach certain advanced subjects, yet the interpreter may be called on to provide such tutoring because there is no communication barrier between the interpreter and the student while there is likely such a barrier between the teacher and the student.

Interpreting for deaf and hard of hearing students in rural school districts is particularly challenging. Often there is only one educational interpreter for an entire school district or multiple districts. Conversely, one interpreter may be hired to "follow" one student from preschool to high school graduation if there are no other deaf and hard of hearing students in the district. It has been suggested that the familiarity that develops between the interpreter and student may ultimately be a hindrance to the development of the student's independence.

No Child Left Behind Act

The NCLB has brought new challenges to deaf and hard of hearing education. The law's stated purpose is to close the achievement gaps that exist between schools with accountability, choice, and flexibility so that no child is left behind in terms of education, and the goal of the law is to have all students reach the 100% level of proficiency in reading, mathematics, and science by 2014. According to Nancy Reder (2004), "While local and state educators have struggled to implement NCLB as it affects students in general education, the task is even more daunting for those with actual responsibility for meshing the requirements of the new law with the older federal civil rights law that is designed to ensure that students with disabilities make educational progress that is individually tailored to meet their specific learning needs through their individualized education program (IEP)."

NCLB also requires having a "highly qualified teacher in every classroom." For deaf and hard of hearing education, this means that all educators of deaf and hard of hearing students will not only have to be well trained in the specifics of deaf and hard of hearing education, but they will also have to be trained in the subject areas that they are teaching, such as reading and mathematics. This poses a burden on educators of deaf and hard of hearing students who are required to successfully complete an extensive curriculum in order to be certified as educators of

deaf and hard of hearing students. Now, because of NCLB, students studying the education of deaf and hard of hearing students will also have to increase their credit load to include subject area credits. As with special education teachers, it will no longer be enough to be trained in their field; now it is also necessary that they are experts in all of the subjects that they teach.

Paraprofessionals in the schools are also affected by the NCLB. According to the Act, paraprofessionals must also become highly qualified to interpret in schools. This means that, by law, they must complete at least two years of study at an institution of higher learning and meet a rigorous standard of quality assessment to show that they can assist in the teaching of reading, science, and mathematics. However, interpreters for the deaf and hard of hearing are not mentioned nor are the parameters that make them "highly skilled" mentioned in the NCLB. Even though the parameters for a "highly skilled" interpreter are not clearly defined, under the strict requirements posed by the NCLB, many interpreters may choose not to continue working in positions that require this high level of qualification for what are reportedly poorly paid jobs.

Another issue associated with the implementation of the NCLB with reference to deaf and hard of hearing students is the use of uniformly stringent assessments that are used to evaluate the progress of all students regardless of their individual learning issues or capacities. The NCLB includes all students with disabilities in the overall Adequate Yearly Progress (AYP) report. That is, any students with any disabilities must be assessed alongside their nondisabled peers using the same standardized test scores. This means that deaf and hard of hearing students take the same standardized tests as their hearing peers. This may pose a problem for many deaf and hard of hearing students and the schools in which they are enrolled as younger deaf and hard of hearing students are often not at the same reading and English levels of their age-group peers who are not hearing impaired and do not typically encounter a communication gap with their teachers. In other words, deaf and hard of hearing students who do not have effective communication with their teachers may fall behind in reading and English. Despite this gap, deaf and hard of hearing students take the same tests as their hearing peers, and the schools they attend are likely to be penalized if deaf and hard of hearing students do not progress as quickly or achieve at the same level as hearing students.

Teachers and Interpreters for Deaf and Hard of Hearing Students in Michigan Schools

Michigan's Administrative Rules for Special Education (MARSE), revised in 2002, specify the educational and training requirements for classroom personnel who provide instruction and assistive services for disabled students. Rules concerning programs for students with a hearing impairment (R 340.1742) are fairly broad and do not specify the type of educational approach to educating deaf and hard of hearing students (e.g., a deaf "environment" such as the Michigan School for the Deaf, a total communication approach that employs any appropriate means of communication, or an oral-deaf approach that focuses on the use of assistive devices and the promotion of verbal speech as opposed to signed communication). Rules regarding the qualifications for teachers of students with hearing impairments (R 340.1799c), in contrast, are extensive and definitive. In between these extremes, however, are the numerous instances in which individual deaf and hard of hearing students find themselves in school districts that do not have a critical mass of deaf or hard of hearing students to warrant establishment of a distinct deaf-education program, but nonetheless must be provided with the services necessary to guarantee they are educated appropriately under both state and federal (e.g., Americans with Disabilities Act) guidelines. For most school districts, this requires the employment of an interpreter (or interpreters) for deaf and hard of hearing students who can serve as the communication links between deaf and hard of hearing students, their teachers, administrators, other school personnel, and other students.

Interpreters for deaf and hard of hearing students in Michigan schools (R 340.1793a, rule 93a) are required to be one of the following:

- A nationally certified interpreter.
- A qualified interpreter at the State of Michigan Quality Assurance level II or III.
- "A high school graduate, or equivalent, with advanced training in a community college, agency, or degree-granting institution" that is approved by the Michigan Department of Education.

These regulations, however, are not always enforced. Federal regulations under the Individuals with Disabilities Education Act (IDEA) allow states to employ paraprofessionals who are appropriately trained and supervised to assist in providing educational services to special

education students. In addition, federal regulations allow local education agencies to hire "the most qualified individuals" available if trained personnel, such as interpreters, are not available (IDEA, paragraph 300.135). In Michigan, especially in the less densely populated areas, there is anecdotal evidence that individuals who have neither received formal training as interpreters for deaf and hard of hearing people nor are certified at any level may be hired to provide interpreting services as there is a lack of readily available, educated, and certified interpreters available in such areas.

Research Methods and Materials

In order to provide a broad perspective on the current and future supply and demand for interpreters for the deaf and hard of hearing in Michigan, three distinct research techniques were employed to compile diverse sets of data. In addition to applying standard demographic techniques to estimate and develop projections of the number of deaf and hard of hearing people in Michigan at the current time and to the year 2030, extensive information was derived from a survey of interpreters for the deaf and hard of hearing who reside in Michigan as well as interviews with key informants and visits to their educational institutions.

Demographic Estimates and Forecasts

As interpreters for the deaf and hard of hearing are not licensed in Michigan, and as they may be certified by a number of organizations, including the State of Michigan, rather than by only one organization that has oversight responsibility, there is no central repository or comprehensive source of information about the supply and demand for interpreters in this state. Estimates of the supply and demand for interpreters, therefore, must be derived from the limited information available through the Michigan Department of Education (MDE), information gleaned from the survey conducted with interpreters as part of this study, and most important, derivative information based on demographic estimates and projections of the deaf and hard of hearing population in Michigan.

As discussed in some detail in the findings concerning the deaf and hard of hearing population of Michigan, a number of attempts to quantify the number of deaf and hard of hearing people in the United States were evaluated in order to determine the most useful and appropriate nationwide estimates that might be applied to Michigan's current population estimates and more recent population projections. The figures reported in this study are based primarily on prevalence rates of deafness drawn from the 2001 U.S. Census Bureau's Survey of Income and Program Participation (SIPP) along with recent tabulations of deaf and hard of hearing children reported by MDE. These prevalence rates are applied to statewide estimates and projections in order to generate estimates of the current deaf and hard of hearing population in Michigan and the

projected number of deaf and hard of hearing people every five years through 2030. These figures are presented within five broad age categories: ages 0 to 5, 6 to 17, 18 to 44, 45 to 64, and 65 and older. These figures are then used along with what is known about the number and employment of interpreters for the deaf and hard of hearing to produce estimates of the supply and demand for interpreters for the deaf and hard of hearing in Michigan in future years.

Survey of Interpreters

As indicated above, there are no definitive data concerning interpreters for the deaf and hard of hearing in Michigan beyond a survey that was conducted by the Michigan Department of Labor and Economic Growth, Division on Deaf and Hard of Hearing (DD/HH) several years ago. In order to obtain updated data about the personal characteristics and the employment settings for known interpreters in Michigan, a new survey of interpreters for the deaf and hard of hearing was conducted. The sampling frame for this survey was derived from two mailing lists of interpreters for the deaf and hard of hearing, which were obtained from DD/HH and from MDE. These lists were combined and duplicate entries were eliminated; the survey was sent to all of the individuals on the combined list.

This survey consisted of 21 questions concerning each respondent's education, his or her level of certification, current employment, and some demographic information. For those interpreters employed within K-12 education, an additional 18 questions were presented concerning the individual's responsibilities, work activities, and opinions regarding whether or not deaf and hard of hearing students' needs are being met in the schools where they work, suggested recommendations, and comments regarding professional development and training.

This survey was conducted electronically via the Internet with individuals for whom e-mail addresses were available and by standard mail with individuals for whom only postal addresses were available. A total of 798 individual interpreters for the deaf and hard of hearing were identified from this list. Within this list, 40 individuals were identified for whom no postal or e-mail address was provided, and 40 additional individuals were identified as residing outside of Michigan. Twenty-six of the 40 outside of Michigan reside within commuting distance of employment in Michigan, including nine in Ohio, nine in Indiana, and eight in Ontario, Canada.

For purposes of this study, all 40 out-of-state individuals on this list were excluded from the survey. From the remaining 718 unduplicated names on the list, 233 surveys were returned for a 32.5% response rate. The results obtained from this list are estimated to be accurate within ±6.4% with a 95% confidence interval.

Key Informant Interviews

In order to provide a context within which the information received through analysis of documents and the results of a survey of interpreters for the deaf and hard of hearing may be applied to the fundamental questions explored in this study, a series of key informant interviews were conducted with more than a dozen individuals in Michigan. Each of these individuals is actively involved with the education of deaf and hard of hearing children, the education of interpreters for the deaf and hard of hearing, the provision of interpreting services to deaf and hard of hearing people, or is involved with the deaf and hard of hearing community in Michigan; each of them is broadly recognized as being knowledgeable and insightful regarding deaf and hard of hearing issues in this state.

The topics that were addressed through these interviews concern the relationship between deaf and hard of hearing individuals in Michigan—especially in Michigan schools—and the availability of interpreters for the deaf and hard of hearing, the way in which they are educated, where they are employed, and future demand for interpreters and how this will change over the next several years. Specific topics discussed include:

- The presence of interpreters for deaf and hard of hearing students in Michigan schools (K-12), the services they provide, and the positions they occupy.
- The level of certification that is currently held by interpreters in Michigan and how this may change in the future.
- Perceptions of the most pressing need for interpreters in Michigan education and the impact that the No Child Left Behind Act may have on these needs.
- The demand for interpreters in other settings (outside of K-12) and how this may be changing.
- Trends in the deaf and hard of hearing population and the number of interpreters available to serve those who require interpreters.

- Suggestions concerning the educational requirements for interpreters for the deaf and hard of hearing and how these should be changed.
- The impact of technology on communication within the deaf and hard of hearing community as well as between deaf and hard of hearing individuals and hearing individuals.

A copy of the key informant interview schedule that was used for this study may be found in Appendix B.

Fourteen interviews were conducted between February and April 2006, and most of these were conducted face-to-face with the individuals who agreed to be interviewed for this study. A few were conducted by telephone. Three of the interviews were conducted in conjunction with site visits to Michigan institutions of higher education that provide education and training for interpreters for the deaf and hard of hearing.

Although the specific identities of each of the key informants are not associated with their specific comments, it is instructive to note that the 14 individuals interviewed serve in a variety of roles and, in most cases, they serve more than one role or exhibit more than one important characteristic at a time.

- Three key informants are deaf and the interviews with them were conducted with the assistance of certified interpreters.
- Eight of the 14 key informants are educators, most of whom are fluent in American Sign Language as well.
- Four of the key informants are educational administrators.
- Four of the key informants provide interpreting services to the deaf and hard of hearing in a variety of settings.

Findings

Michigan's Deaf and Hard of Hearing Population

In order to estimate the current and future demand for interpreters for the deaf and hard of hearing in Michigan, one fundamental task is determining the number of deaf and hard of hearing people within the state as well as some indicator as to the growth trend within this population. Once established, these demographic estimates are used to determine, in part, future estimates of the demand for interpreters for the deaf and hard of hearing.

Data Sources and Resources

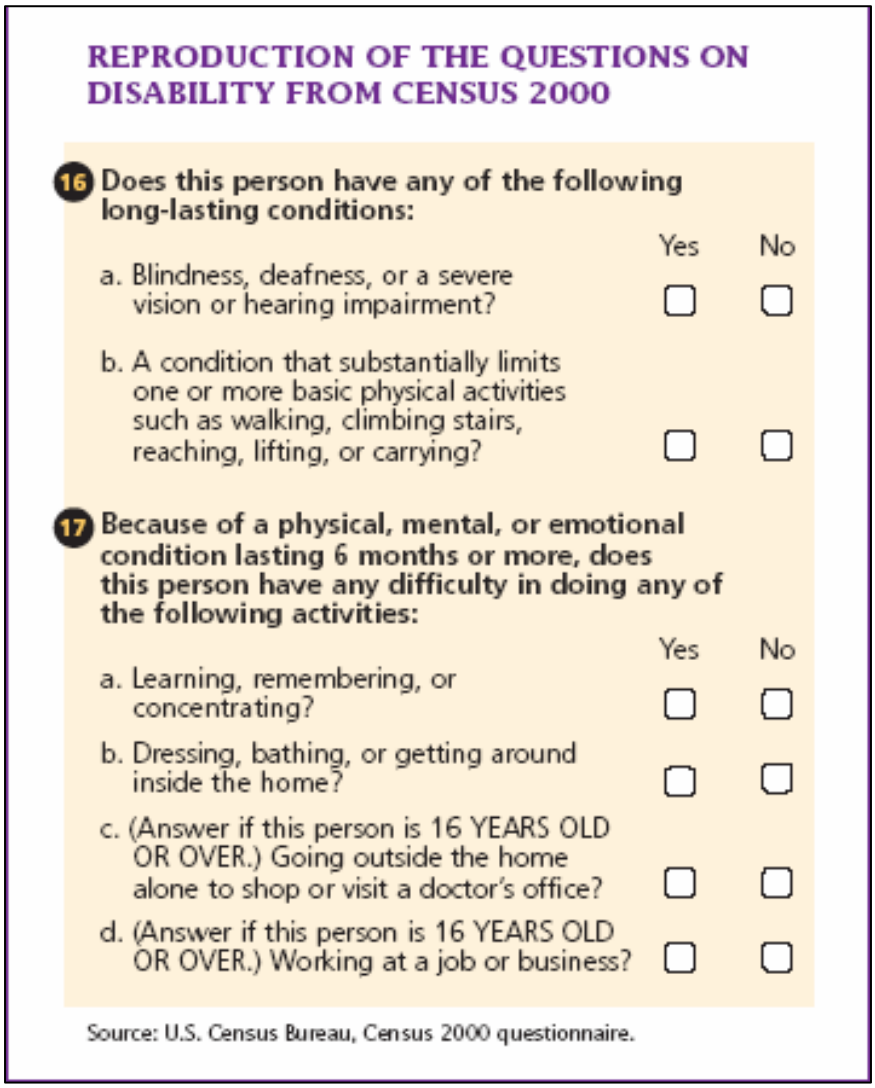
While there is no definitive count of the total number of deaf and hard of hearing people in Michigan, there are a number of data sources that lead to a range of estimates of Michigan's deaf and hard of hearing population from a low of less than 20,000 to a high of almost 100,000. Individuals in the deaf and hard of hearing community estimate that the total population with any hearing loss at all in Michigan may be as high as one million or approximately one in ten Michiganians.

The Population of Deaf and Hard of Hearing People in Michigan

The difficulty with estimating the deaf and hard of hearing population is related to both a lack of categorical data collection and inconsistency over the definitions that are used to identify this population when it is estimated. Neither the U.S. Census Bureau nor the National Center for Health Statistics (NCHS) can provide explicit and current data on the deaf and hard of hearing population of Michigan. The 2000 Census of Population and Housing, for example, included a long-form[4] question that asks if the individual has any long-lasting conditions, such as blindness, deafness, or a severe vision or hearing impairment. The actual wording and format of the question is reproduced below from the 2000 Census.

[4] The "long form" questionnaire is provided to a sample of approximately 15% of all households and contains an extensive set of questions that address a wide variety of demographic, economic, and housing characteristics of the household.

Using this definition, however, makes it impossible to distinguish among those individuals who may be identified as being blind or deaf or having a severe vision or hearing impairment. Other U.S. Census tabulations are equally problematic. The American Community Survey program collected data on the noninstitutionalized civilian population with disabilities in 2003, but only distinguished individuals with disabilities within six broad categories: sensory disability (such as deafness or blindness), physical disability, mental disability, self-care disability, go-outside-home disability, and employment disability. While these data are available at the state level, they are not detailed enough to provide any direction as to the deaf and hard of hearing population in Michigan.



REPRODUCTION OF THE QUESTIONS ON DISABILITY FROM CENSUS 2000

16 **Does this person have any of the following long-lasting conditions:**

	Yes	No
a. Blindness, deafness, or a severe vision or hearing impairment?	☐	☐
b. A condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying?	☐	☐

17 **Because of a physical, mental, or emotional condition lasting 6 months or more, does this person have any difficulty in doing any of the following activities:**

	Yes	No
a. Learning, remembering, or concentrating?	☐	☐
b. Dressing, bathing, or getting around inside the home?	☐	☐
c. (Answer if this person is 16 YEARS OLD OR OVER.) Going outside the home alone to shop or visit a doctor's office?	☐	☐
d. (Answer if this person is 16 YEARS OLD OR OVER.) Working at a job or business?	☐	☐

Source: U.S. Census Bureau, Census 2000 questionnaire.

Figure 1

The U.S. Census Bureau's Survey of Income and Program Participation (SIPP), in contrast, has actually identified individuals who are deaf, blind, or have other recognized disabilities. For example, data collected during the August–November 1997 SIPP wave identified Americans who had difficulty hearing conversation, further distinguished as being "severe" or "not severe," and this was further broken down by age category. Unfortunately, the sample data used to compile these measures were not large enough to allow statisticians to calculate an estimate of the number of people in Michigan who have difficulty hearing conversation. A more recent version of the SIPP conducted in 2001 presented an expanded version of the question and, according to Mitchell (2005), these data "indicate that fewer than 1 in 20 Americans are currently deaf or hard of hearing." Nationally, this implies that approximately 1 million Americans (among nearly 300 million United States residents) are functionally deaf, and nearly 10 million more are hard of hearing. According to Mitchell (2005), these figures do not include "a larger population of persons with hearing loss for which only hearing outside the range and circumstances of normal conversations is affected."

Defining Deafness

This leads to the second issue, which is concerned with the identification and categorization of deaf and hard of hearing people. The National Health Interview Survey (NHIS) is conducted every several years by NCHS, and in the 1990–91 effort data specifically regarding the hearing-impaired population of the United States were collected along with a small number of demographic variables about these individuals. What was unique about this data-collection effort was the attempt to identify specific causes for the individual's deafness, the age of onset of deafness, and the use of three distinct operational definitions of deafness that go far beyond the vague concepts of deafness that are used in some other data-collection efforts, such as the American Community Survey.

NHIS identified deafness three ways:

- Deaf in both ears
- Cannot hear and understand any speech
- At best, can hear and understand words shouted in the better ear

Based on these definitions, the prevalence of deafness in the United States for 1990–91 was estimated as follows:

Table 1: Estimated Deaf and Hard of Hearing Population of the United States, 1990–1991

Description	Estimated Number	Percentage of Population
Deaf, both ears	421,000	0.18%
Cannot hear and understand any speech	552,000	0.25%
At best, can hear and understand words shouted in the better ear	1,152,000	0.49%

Source: NCHS, NHIS, Series 10, Number 188, Tables 1, B, C, 1994.

SIPP has taken a very different approach. The 2001 series of interviews focused on the difficulty of hearing normal conversation with and without the use of a hearing aid. The specific questions asked were:

- Question CDQ11: "Do you [Does the child] have difficulty hearing what is said in a normal conversation with another person even when wearing you [his/her] hearing aid?"
- Question CDQ12: "Are you [Is the child] able to hear what is said in normal conversation at all?" (U.S. Census Bureau, 2001 SIPP)

As discussed by Ross Mitchell at Gallaudet University (2005), use of these two questions lead to five possible categories of responses, one of which represents a population that is distinctly identifiable as deaf.

Table 2: Estimated Population of the United States That Has Difficulty Hearing Normal Conversation, 2002

Has Difficulty Hearing Normal Conversation (With a Hearing Aid, If Used)	U.S. Population (estimate)	Percentage of U.S. Population
No, does not use a hearing aid	252,636,477	95.94%
No, uses a hearing aid	2,500,057	0.95%
Some, even with a hearing aid	7,194,969	2.73%
Unable, even with a hearing aid	813,947	0.31%
Person is deaf	179,552	0.07%
Total	263,325,002	100.00%

Source: U.S. Census Bureau, SIPP, Panel 2001, Wave 5, public-use file as reported in Mitchell, 2005.

Although a more thoughtful approach to identifying the deaf and hard of hearing population was used in the SIPP than in other recent efforts—especially the 2000 Census of Population and Housing that only identifies individuals with a "sensory disability," the principal limitation of these data is demographic. The total sample for the 2001 SIPP panel was 29,532 households with a total of 69,413 members. Data were not collected for household members below age 6, and 3.4% of all eligible household members were not interviewed at all. Even had all 69,413 individuals been interviewed, this sample size does not allow the disaggregation of statistically reliable subsamples for any distinct geographical unit other than the nation as a whole.

There is also another issue that is both statistical and definitional. As Mitchell points out, the total responses within the "deaf" category for each age group are too small to be statistically reliable (2005, page 5). As a result, he combines the "deaf" category with those who indicated that they (or their children) are unable to hear, even with the use of a hearing aid, and creates a category he calls "functionally deaf." By combining these two categories, statistically reliable estimates of the "functionally deaf" population may be drawn for each of four broad age categories for the entire nation: ages 6 to 17; 18 to 44; 45 to 64; and 65 and older. These estimates, in turn, allow the creation of prevalence rates that represent the overall rate for "functional" deafness by broad age category.

These figures are the most recent estimate of the nation's deaf and hard of hearing population and they represent a more realistic approach to identifying deaf and hard of hearing individuals

than most of the other efforts that have been advanced in the past 25 or 30 years. The prevalence rates derived from these data, therefore, may be applied to other relatively large geographies, such as states or large metropolitan areas, in order to devise estimates of the deaf and hard of hearing population that appear to be reasonably reliable and statistically defendable.

Estimates and Projections of Michigan's Deaf and Hard of Hearing Population

The preceding data along with other older, widely recognized data sources (such as Schein and Delk, 1974) were used to estimate the total deaf and hard of hearing population of Michigan and the deaf and hard of hearing population of Michigan by age for the year 2000. As definitive data regarding the size of Michigan's deaf and hard of hearing population are not available, and as a number of different definitions may be used to identify the number of deaf and hard of hearing people within a geographic area, prevalence rates have been calculated from prior research for each category and applied to Michigan's total population and population by broad age category. These data were also used to estimate Michigan's deaf and hard of hearing population for 2005 and to develop projections of the deaf and hard of hearing population of Michigan as a percentage of the total population and broad age groups using the most recent population projections for Michigan available from the U.S. Bureau of the Census.[5] These estimates and projections of Michigan's deaf and hard of hearing population are illustrated in Table 3, below.

Based on these diverse approaches, estimates of Michigan's deaf and hard of hearing population in 2000 vary in size from approximately 18,000 individuals who are deaf in both ears to as many as 837,000 who may be hearing impaired, using figures compiled from the NCHS, NHIS conducted in 1994. Using the widely known Schein and Delk figures from 1974, one may estimate more than 96,000 deaf and hard of hearing people in Michigan in the year 2000. A more recent and more reasonable estimate of Michigan's deaf and hard of hearing population—i.e., the "functionally deaf" population as defined by Mitchell (2005)—was approximately 35,000 in 2000. These figures are illustrated in Table 3 and Figure 2, below.

Given the paucity of demographic detail about the deaf and hard of hearing population at any geographic level, estimating the number of deaf and hard of hearing children in Michigan is even

[5] No current population projections other than these are available from the State of Michigan.

more problematic. Based on the reported number of known deaf and hard of hearing children who are enrolled in Michigan public schools and identified for administrative purposes to the Michigan Department of Education (MDE) in 2004, the total school-age population of deaf and hard of hearing children is 3,390.[6]

Table 3: Estimates and Projections of Michigan's Deaf and Hard of Hearing Population, 2000–2030

	Census April 1, 2000	Projections July 1, 2005	Projections July 1, 2010	Projections July 1, 2020	Projections July 1, 2030
Functionally deaf by age 6+ [a]	34,650	36,041	37,984	43,333	47,957
Functionally deaf, all ages [b]	34,961	36,005	36,776	37,764	37,855
Deaf population age 16+, non-inst. [c]	36,615	38,144	39,512	40,697	40,962
NCHS, deaf in both ears [d]	17,889	18,373	18,772	19,253	19,250
NCHS, cannot hear speech [e]	22,858	23,477	23,986	24,601	24,597
NCHS, shouted speech only [f]	48,698	50,016	51,101	52,410	52,401
Schein & Delk, 1974	96,403	99,012	101,158	103,751	103,733

[a,b] Mitchell, 2005

[c] U.S. Census Bureau, 1994–95

[d, e, f, g] NCHS, NHIS, 1994

[6] It has been suggested that this figure is low and that there may be several hundred additional deaf and hard of hearing children who are enrolled in charter schools or are home schooled. However, the 3,390 figure represents a prevalence rate of approximately 0.2% of all children ages 6 through 17 in Michigan. This is almost three times the prevalence rate suggested by Mitchell in his 2005 analysis of SIPP data for the entire nation. As none of the key informants interviewed for this study, including the principal of the Michigan School for the Deaf, indicated any recent growth among the number of deaf and hard of hearing children in Michigan or the absence of such children from participation in the public school system, this incidence rate is likely to be reasonable. The figures shown in Table 3 and Figure 2, below, are based on this 0.2% incidence rate for the 6- through 17-year-old population.

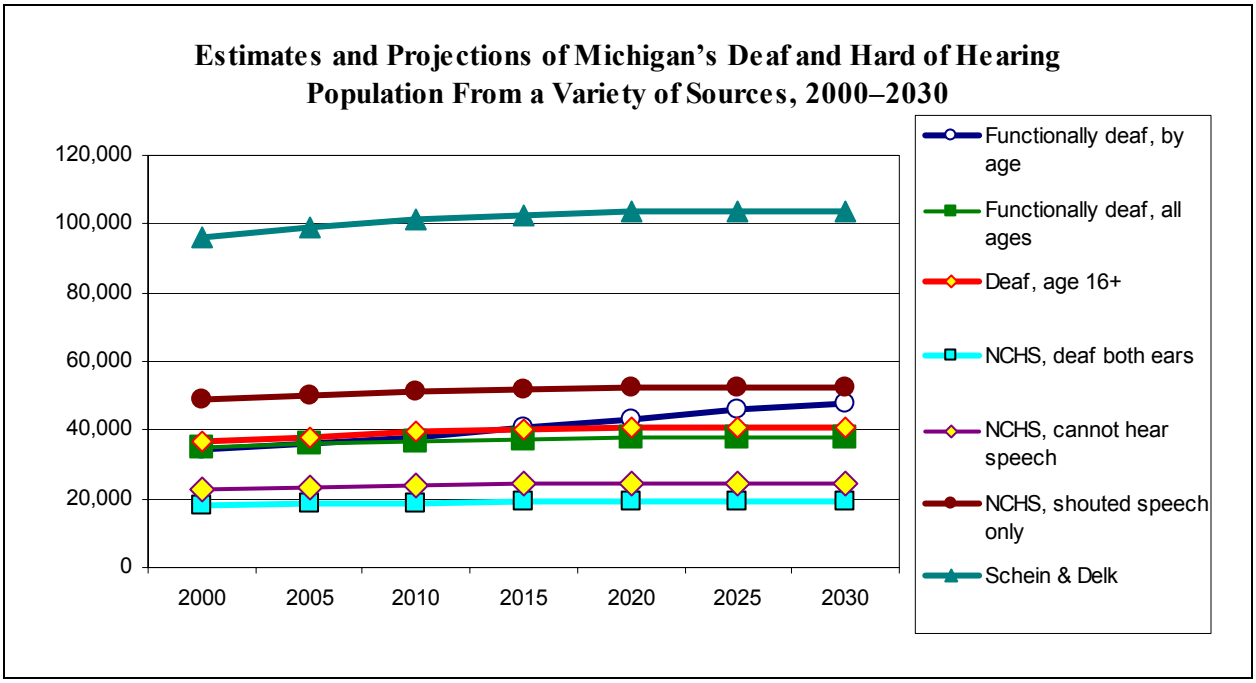


Figure 2

Through a combination of the prevalence rates derived from Mitchell's (2005) analysis of SIPP data and the relationship of identified deaf and hard of hearing students enrolled in Michigan schools as reported by MDE, a set of "consensus" estimates and projections of Michigan's deaf and hard of hearing population by age were constructed. These figures are presented in Table 4.

Table 4: Consensus Estimate and Projections of Michigan's Deaf and Hard of Hearing Population by Age, 2000–2030

Age Group	2000	2005	2010	2015	2020	2025	2030
0–5	470	465	477	488	481	468	463
5–17	3,552	3,491	3,334	3,288	3,309	3,328	3,272
18–44	7,785	7,667	7,645	7,599	7,538	7,396	7,228
45–64	7,362	8,491	9,190	9,286	9,030	8,638	8,468
65 +	18,163	18,560	19,884	22,452	25,501	28,703	31,003
Total	37,332	38,674	40,530	43,113	45,859	48,533	50,434

The overall size of Michigan's deaf and hard of hearing population, assuming current prevalence rates remain in effect for the next 25 years, will grow by approximately 11,800 or 30% between 2005 and 2030. Disaggregation of the total figures by age, however, reveals a more startling and programmatically important set of figures. Among the five age groups identified in Table 4, only two age categories are expected to grow through 2030—deaf and hard of hearing people

ages 45 to 64 and deaf and hard of hearing people who are age 65 and older. Each of the younger categories of deaf and hard of hearing people is likely to remain at roughly the same size or decline slightly between now and 2030. The distinction between growth among younger deaf and hard of hearing people and older deaf and hard of hearing people projected over the next 25 years is illustrated in Figure 3, below.

Much of the explanation for this pattern of growth is related mainly to demographics rather than to any anticipated change in the prevalence or incidence rates for deafness.[7] Michigan has an aging population, and as the population at large ages, so does the deaf and hard of hearing population. In addition, the incidence of deafness grows as the population ages, although this late onset of deafness may impose a different set of needs or require different forms of assistance than had deafness been congenital or acquired during the early years of life. The number of younger people in Michigan, in contrast, is expected to remain relatively flat or decline slightly and, consequently, the number of younger deaf and hard of hearing people is projected to remain flat or decline slightly as well,[8] assuming no change in the prevalence rates for deafness over the next 25 years.

[7] Incidence is the number of new occurrences of a condition (or disease) in a population over a period of time. Prevalence is the measure of a condition in a population at a given point in time. (Friis and Sellers, 1999)

[8] Population stagnation or decline is due to the aging of the baby-boom generation followed by smaller birth cohorts from the mid-1970s to the mid-1980s, historically low birth rates, and migration from Michigan by younger residents, often following the completion of their education.

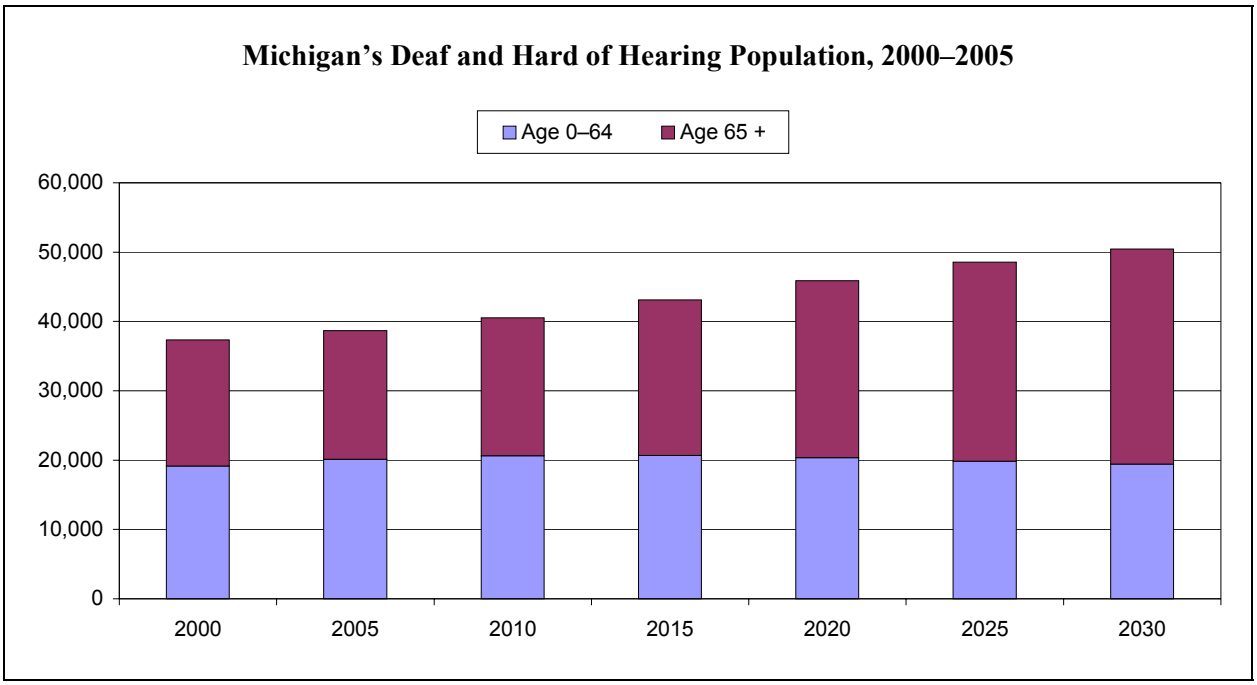


Figure 3

Assuming there is neither an unanticipated influx of deaf and hard of hearing people to Michigan nor an unusually large outmigration of deaf and hard of hearing people, and assuming that the general population of Michigan is not subject to any extraordinary medical event that results in loss of hearing ability among fetuses *in utero*, children, or adults, the preceding figures represent likely scenarios of the future deaf and hard of hearing population in Michigan during the first quarter of the 21st century. Deaf and hard of hearing infants, children, and teenagers through age 17 will remain at roughly 3,800 for the rest of this period. Younger deaf and hard of hearing adults ages 18 to 44 will likely decline slightly from 7,700 in 2005 to approximately 7,200 by 2030. Older working-age deaf and hard of hearing adults (ages 45 to 64) will remain at approximately 8,500 from 2005 to 2030, although there will be some growth and then decline during the intervening years. Michigan's older deaf and hard of hearing population, however, will grow dramatically between now and 2030, increasing from approximately 18,500 to 31,000 over this 25-year period. These estimates and projections of Michigan's deaf and hard of hearing population will be used in later discussions of the supply and demand for interpreters for the deaf and hard of hearing in Michigan as well as in related discussions concerning changes in Michigan's deaf and hard of hearing community and how those changes may produce changes in the need for interpreting and related services in Michigan.

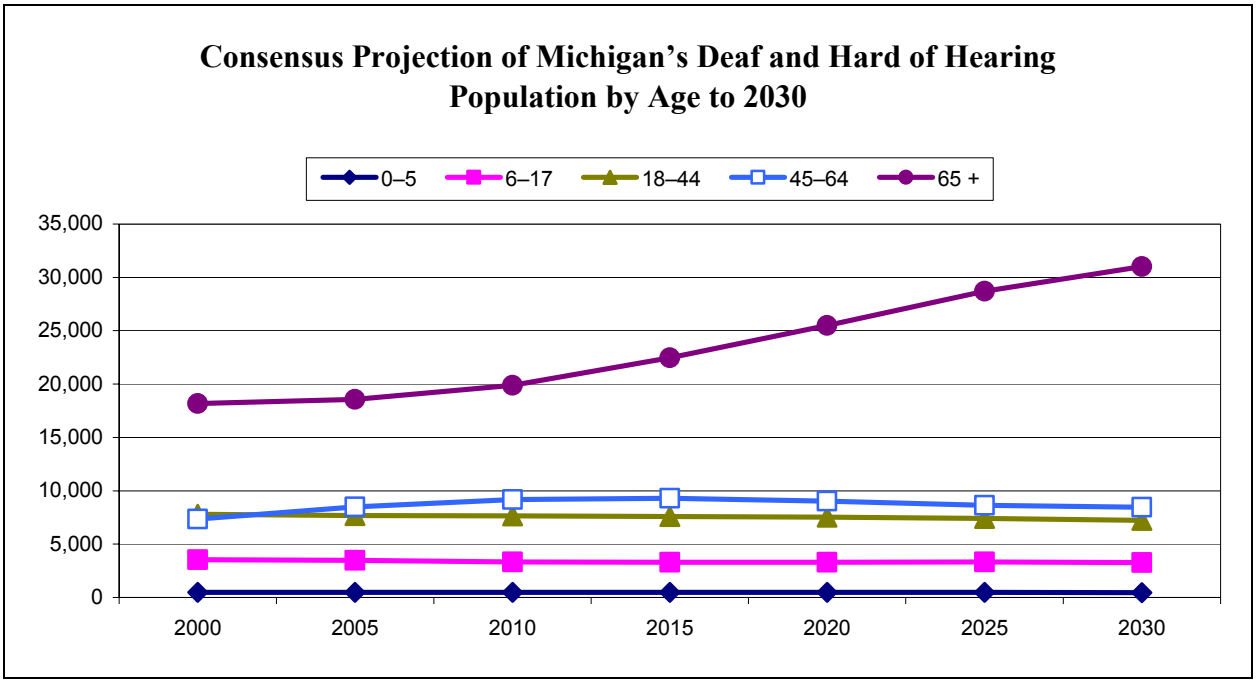


Figure 4

Deaf and Hard of Hearing Children in Michigan Schools

The enrollment figures presented in Figure 5, at best, illustrate the lack of a clear-cut pattern of growth or decline in Michigan's school-age deaf and hard of hearing population. Over the past five years, the number of deaf and hard of hearing children identified by the MDE has varied from a high of 3,487 in 2000 to a low of 3,389 in 2002—a range over this five-year period of fewer than 100 deaf and hard of hearing students from high to low. When one key informant who is very knowledgeable about deaf and hard of hearing students in Michigan was asked about the current number of deaf and hard of hearing students in Michigan, the response was 3,000—indicating either that this individual has seen the statewide figures and generally agrees with them or has not seen them but nonetheless is reasonably close and, thus, confirms them. Other key informants who indicated they were knowledgeable about the number of deaf and hard of hearing students in Michigan schools either agreed with the current MDE figure or indicated that it was too low. One key informant who believes the current MDE figure is too low expressed the belief that approximately 10% of all students in Michigan are hard of hearing and that 1% of all students in Michigan are deaf. This individual further speculated that some school districts in Michigan simply do not report all deaf and hard of hearing children and that there may also be some deaf and hard of hearing children in charter schools or who are home schooled who are not reported as well. At this rate, however, the anticipated number of deaf and hard of hearing

students in Michigan would be approximately 19,000, or more than five times the number reported by the MDE in 2004. The MDE-reported figure appears much more realistic at this time.

What has changed in recent years is an increase in the number of deaf and hard of hearing children who are attending the Michigan School for the Deaf (MSD) in Flint. The principal of MSD believes this may be due to a lack of qualified interpreters in some school districts around the state, but she also indicated that MSD has gotten a good reputation for accommodating multiple-handicapped children who are also deaf or hard of hearing and that this has generated some additional enrollment. Despite the increase at MSD, the principal does not anticipate any significant change in the overall number of deaf and hard of hearing children in Michigan in future years.

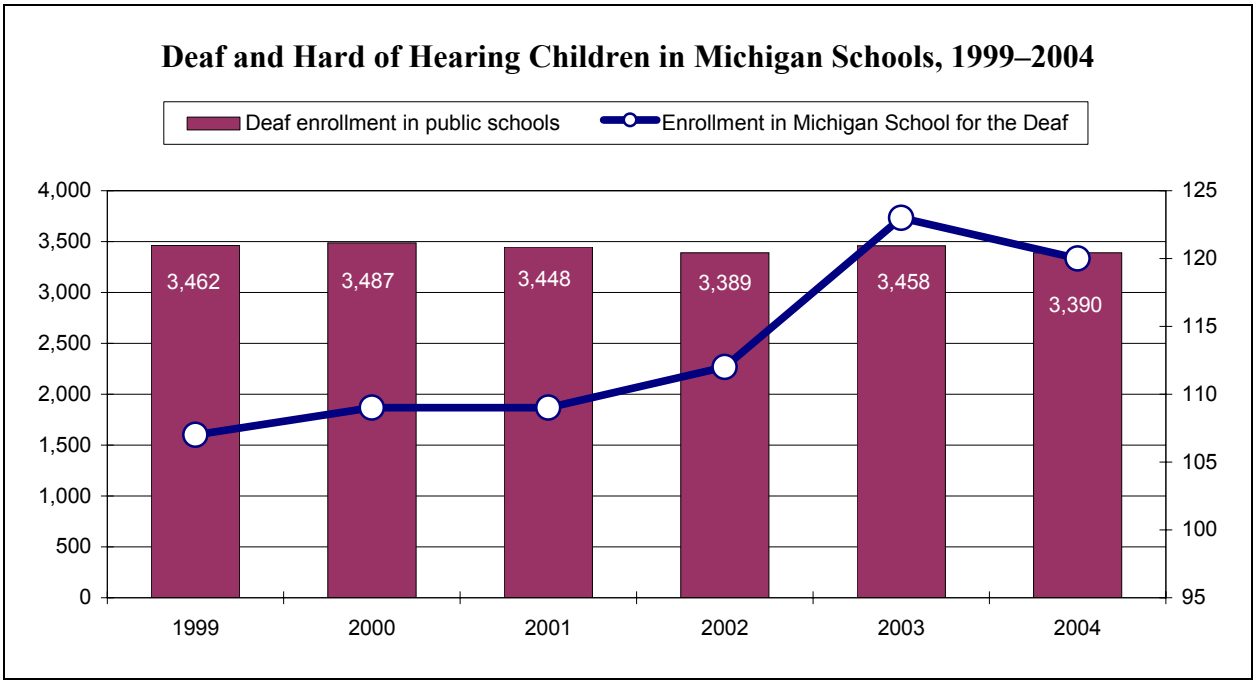


Figure 5
Source: Michigan Department of Education

This conclusion may actually overstate the population of school-age deaf and hard of hearing people in Michigan over the next 25 years. U.S. Census projections for Michigan indicate that the overall school-age population in Michigan is likely to decline from 1,924,000 or 19.4% of the total population in 2000 to 1,772,000 or 16.6% of the total population in 2030. If the incidence of deafness among children remains stable over time absent a reemergence of rubella or other

childhood disease that results in an increase in deafness among children, the number of deaf and hard of hearing children in Michigan—as a constant percentage of all children—may be expected to decline over time. In addition, while some educators of deaf and hard of hearing students may still believe that the incidence rate of deafness among children may be as high as 1 per 1,000, an editorial in the spring 2004 issue of the *American Annals of the Deaf* (Moores, 2004) relates lower incidence rates in other advanced nations and also makes reference to new technologies—including genetic screening and gene therapy—that may result in the birth of fewer deaf and hard of hearing children in the future. If correct, this could result in even fewer deaf and hard of hearing children in Michigan schools over the next few decades.

The projected decline of school-aged children in Michigan through 2030 is illustrated in Figure 6. If the current rate of deaf and hard of hearing students in Michigan schools is kept constant at approximately 0.2% and applied uniformly to the projected student population, the number of deaf and hard of hearing children in Michigan schools might even be smaller than the figures presented earlier in Table 4. Without further corroborating evidence, however, the projections presented in Table 4, above, appear to be the most realistic at this time.

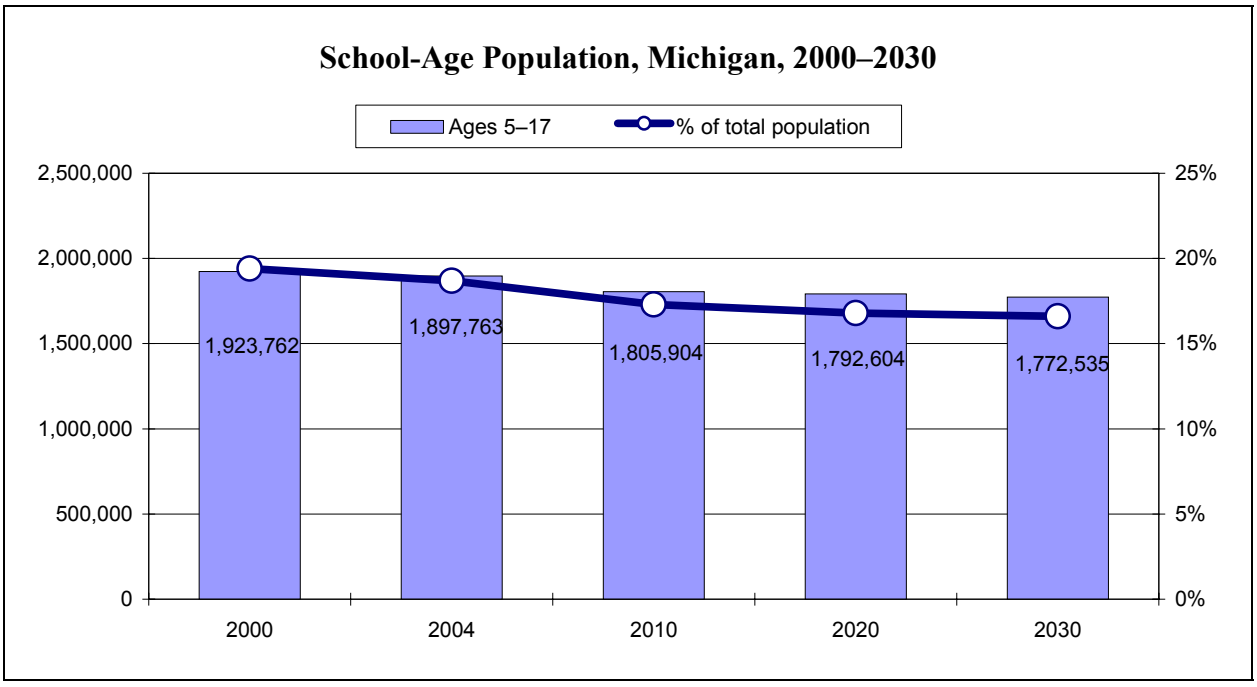


Figure 6
Source: U.S. Census Bureau, 2005 and Public Policy Associates, 2006.

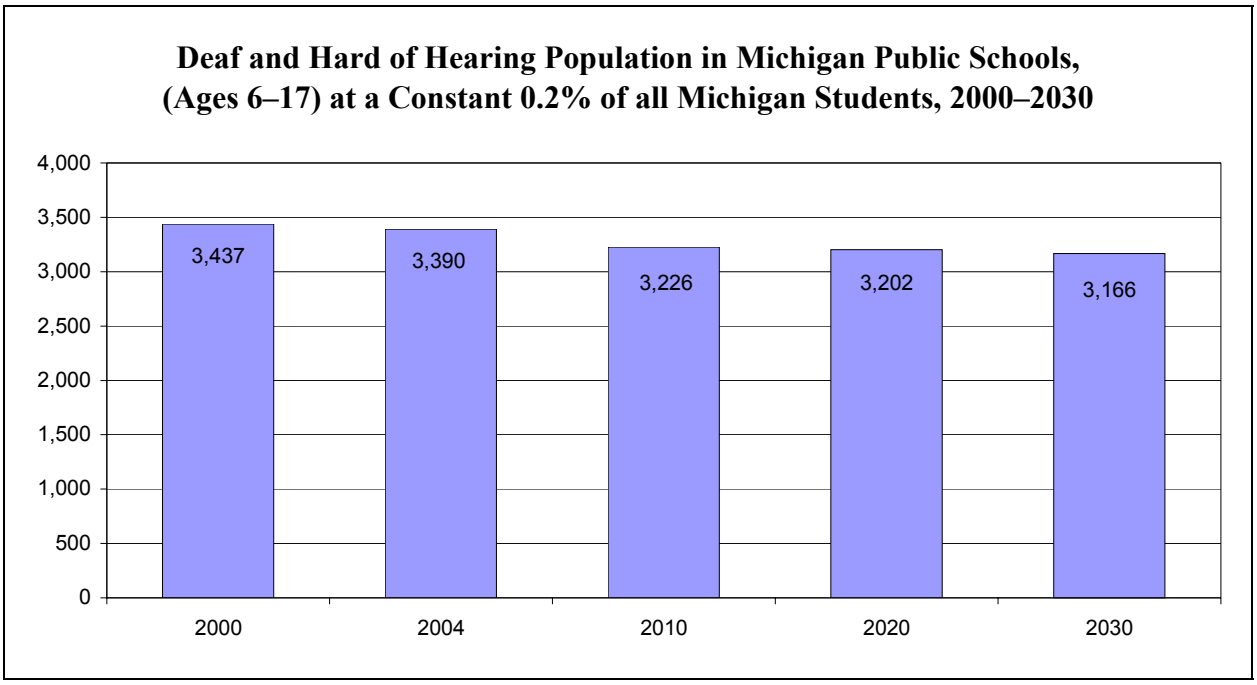


Figure 7
Source: U.S. Census Bureau, 2005 and Public Policy Associates, 2006.

Interpreters in Michigan

As noted earlier, two mailing lists of interpreters for the deaf and hard of hearing that are maintained by the Michigan Department of Labor and Economic Growth, Division on Deaf and Hard of Hearing and the MDE were combined and, after duplicate names were eliminated, were used to survey interpreters in Michigan. An additional 40 entries were eliminated for lack of either a postal or e-mail address, and 40 with non-Michigan addresses were also eliminated. Ninety-nine of the individuals included within the final list who reported e-mail addresses were surveyed electronically using a Web-based survey service. The rest of the entries on the list were surveyed by standard mail. A total of 233 responses were received for a 32.5% response rate. The sampling error is ± 6.4% at the 95% level of confidence.

For demographic purposes, respondents were asked their gender, age, and city or ZIP (Zone Improvement Zone) code where they primarily work and where they live. Out of 233 respondents, 91% reported that they are female, as can be seen in Figure 8. The majority of respondents are between the ages of 30 and 59. As can be seen in Figure 9, 27% of the respondents are between the ages of 40 and 49. A quarter of respondents are between the ages of 50 and 59; another quarter of the respondents are between the ages of 30 and 39.

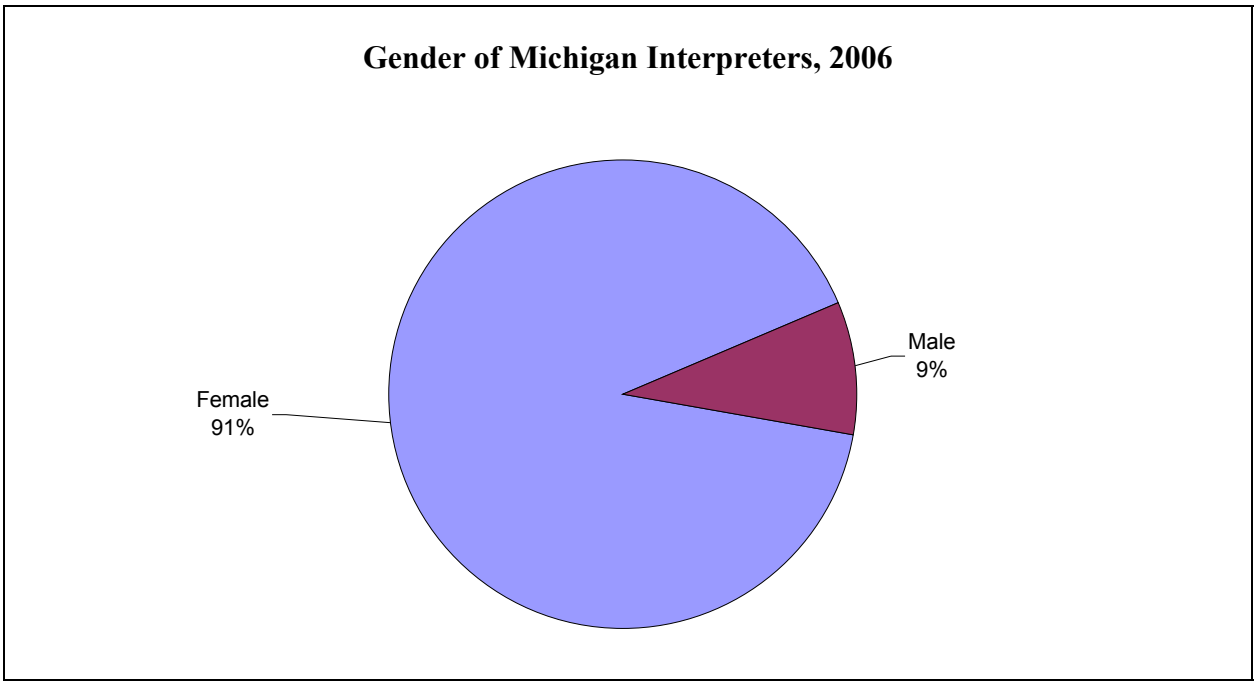


Figure 8

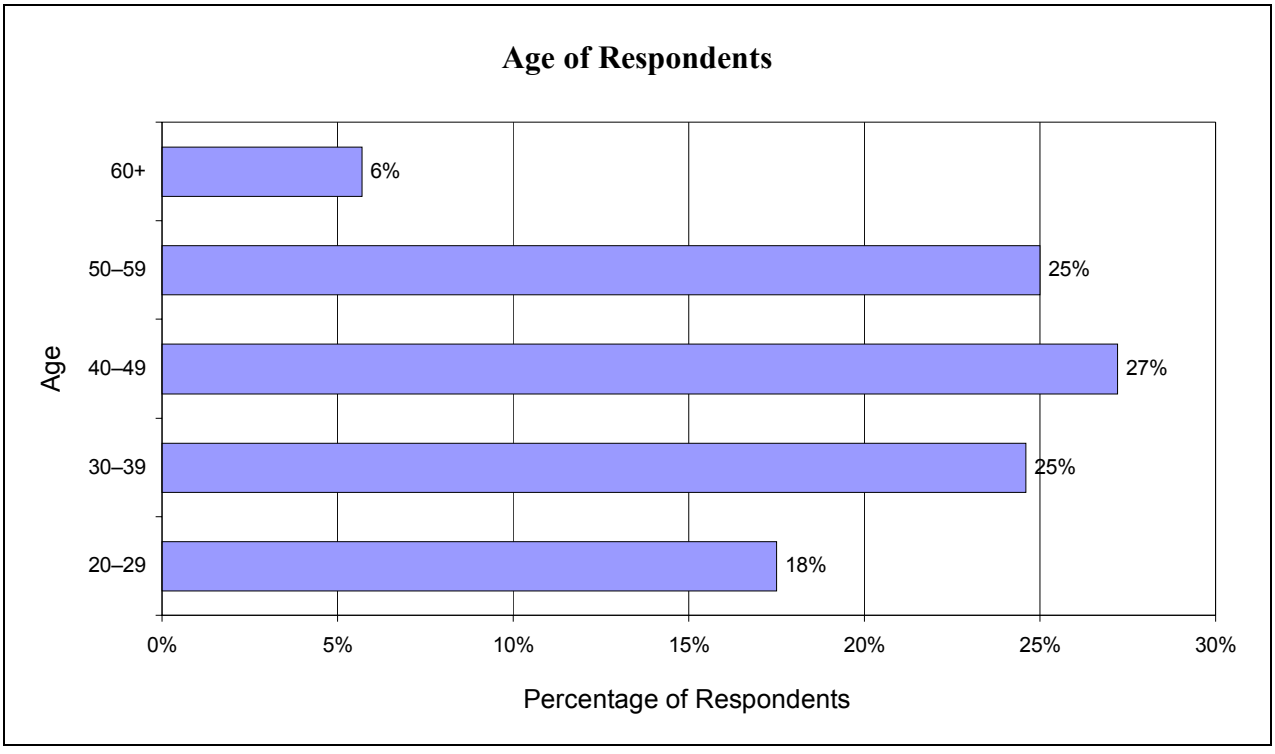


Figure 9
Note: Percentages total more than 100% due to rounding.

As shown in Figure 10, 50% of respondents graduated from an interpreter training program (ITP). An additional 4% are currently enrolled in an ITP and are awaiting their degrees. Of

those that are graduates of an ITP, 51% are graduates of Lansing Community College, 18% are graduates of Madonna University, and 18% are graduates of Mott Community College as can be seen in Figure 11.

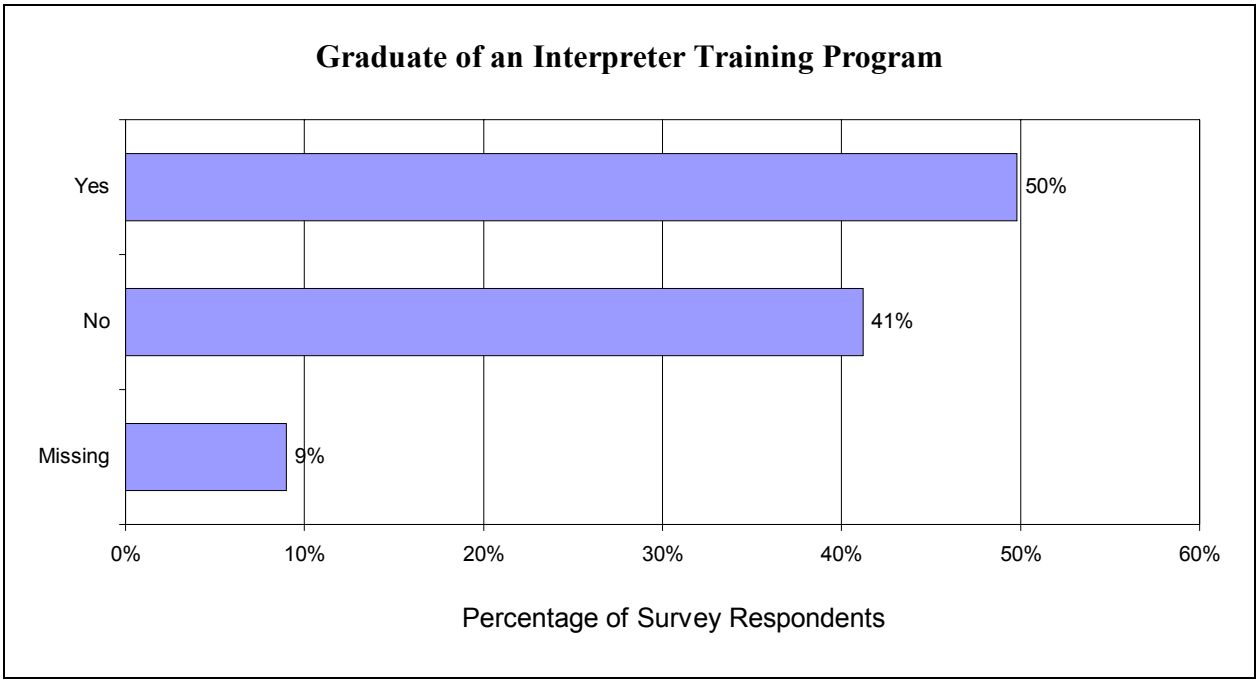


Figure 10

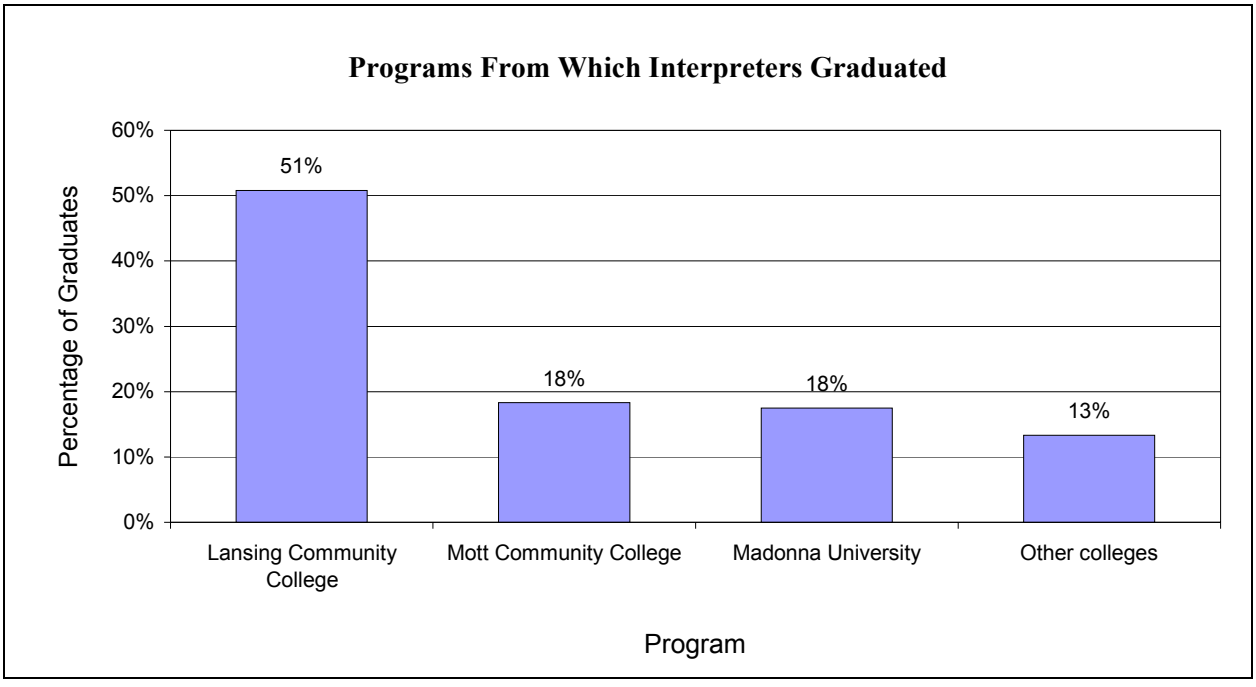


Figure 11

Of those respondents that have graduated from an ITP, 51% reported that their highest degree earned is an associate's degree, as shown in Figure 12. An additional 20% reported that they have earned a bachelor's degree in interpreting; 28% reported that they have earned an "other" degree, many of whom also reported earning a certificate in interpretation. Most of the respondents indicated having some sort of specialized interpreting skills. As shown in Figure 13, 52% of respondents reported that they have had specialized training in blind/deaf interpretation and 31% reported having training in oral interpretation. Although this is a relatively new technology, 26% of the respondents indicated that they had training in video relay service (VRS) interpretation.

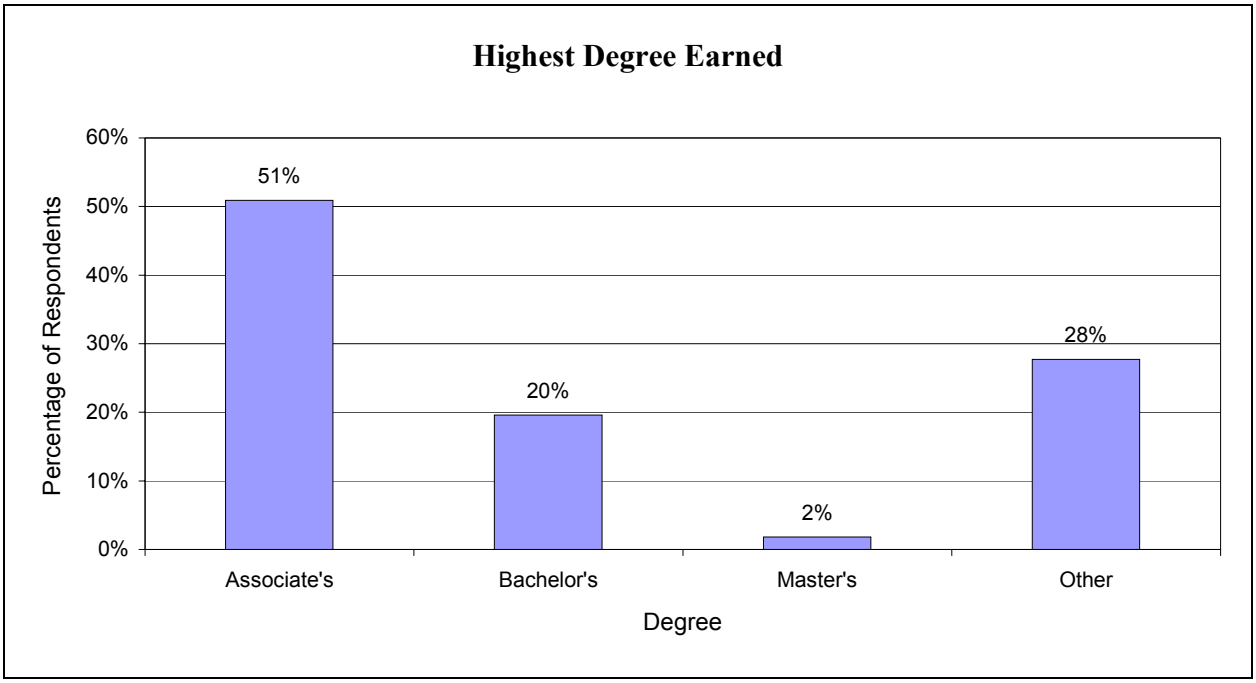


Figure 12

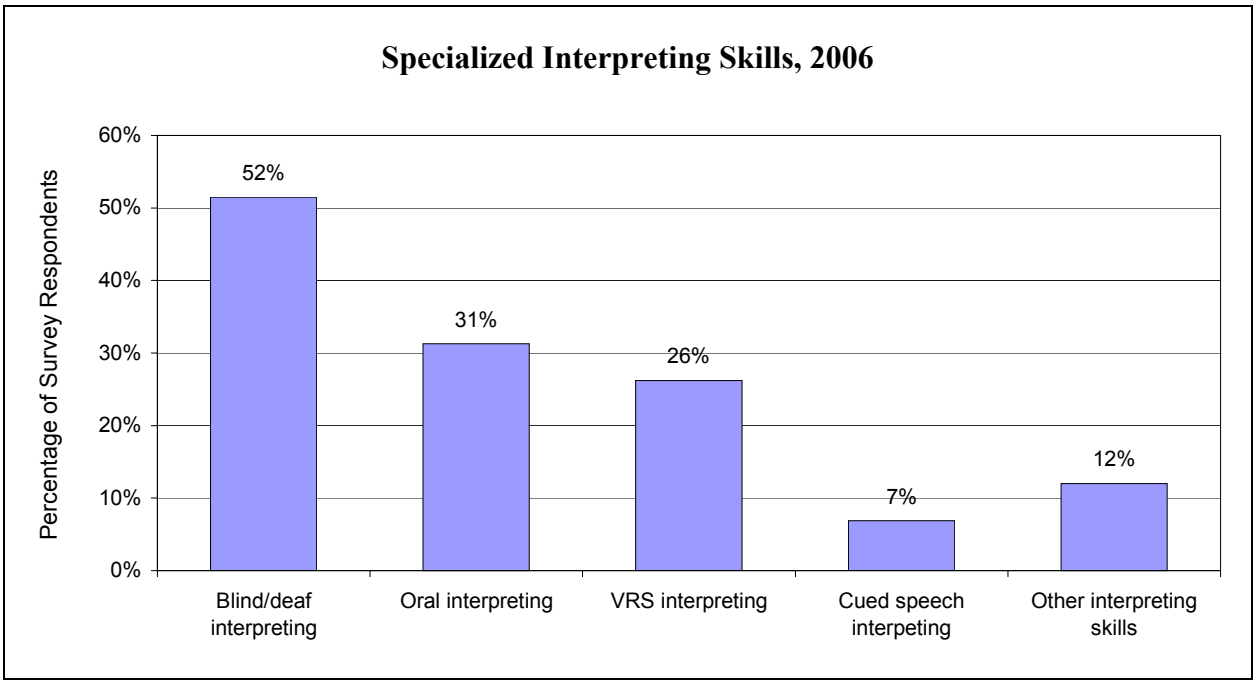
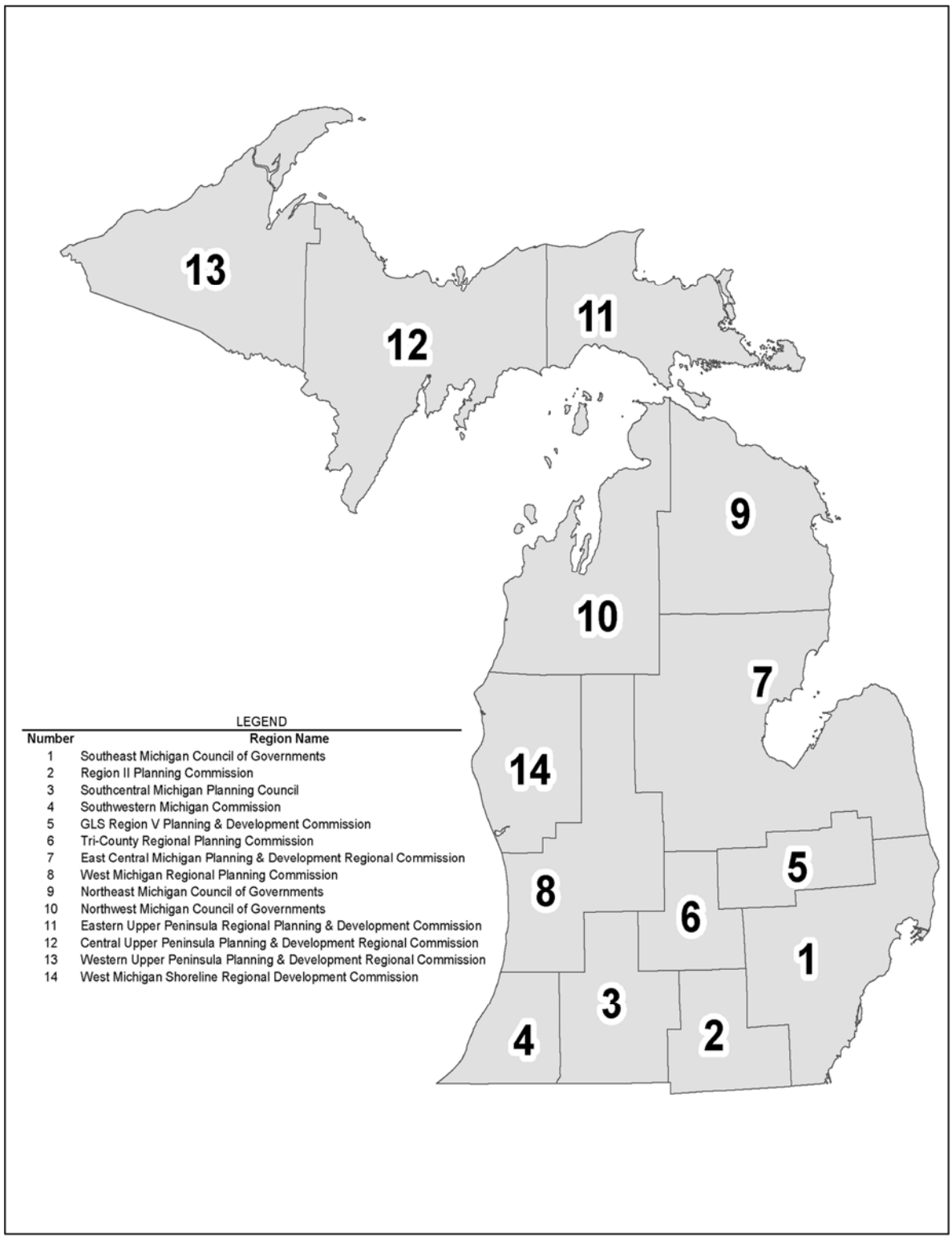


Figure 13

In order to get a sense of the geographical distribution of interpreters for the deaf and hard of hearing in Michigan, respondents were asked to indicate the ZIP codes not only of their primary place of interpretation work, but also their home. For illustrative purposes, Michigan is divided into 14 Planning and Development Regions originally established in 1968. Survey respondents are located geographically by planning region. These regions can be seen in Figure 14 on the following page.


13
12
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LEGEND
Number Region Name
1 Southeast Michigan Council of Governments
2 Region II Planning Commission
3 Southcentral Michigan Planning Council
4 Southwestern Michigan Commission
5 GLS Region V Planning & Development Commission
6 Tri-County Regional Planning Commission
7 East Central Michigan Planning & Development Regional Commission
8 West Michigan Regional Planning Commission
9 Northeast Michigan Council of Governments
10 Northwest Michigan Council of Governments
11 Eastern Upper Peninsula Regional Planning & Development Commission
12 Central Upper Peninsula Planning & Development Regional Commission
13 Western Upper Peninsula Planning & Development Regional Commission
14 West Michigan Shoreline Regional Development Commission

Figure 14

Respondent ZIP codes are distributed by region, as shown in Figure 15. As expected, a plurality of the respondents live and work in Region 1, or Southeast Michigan. Approximately 40% of respondents both live and work in this Region. Also noteworthy, about 13% of respondents both live and work within Region 8, or the West Michigan area, which includes Grand Rapids. The geographical placement of interpreters by the area in which they work can be seen in Figure 16. Most interpreters work within the major metropolitan areas in Michigan. However, as shown in Figure 16, rural areas of Michigan appear to be seriously underserved by interpreters for the deaf and hard of hearing. For example, there are only 2 interpreters out of 233 that reported they provide service to the Upper Peninsula of Michigan.

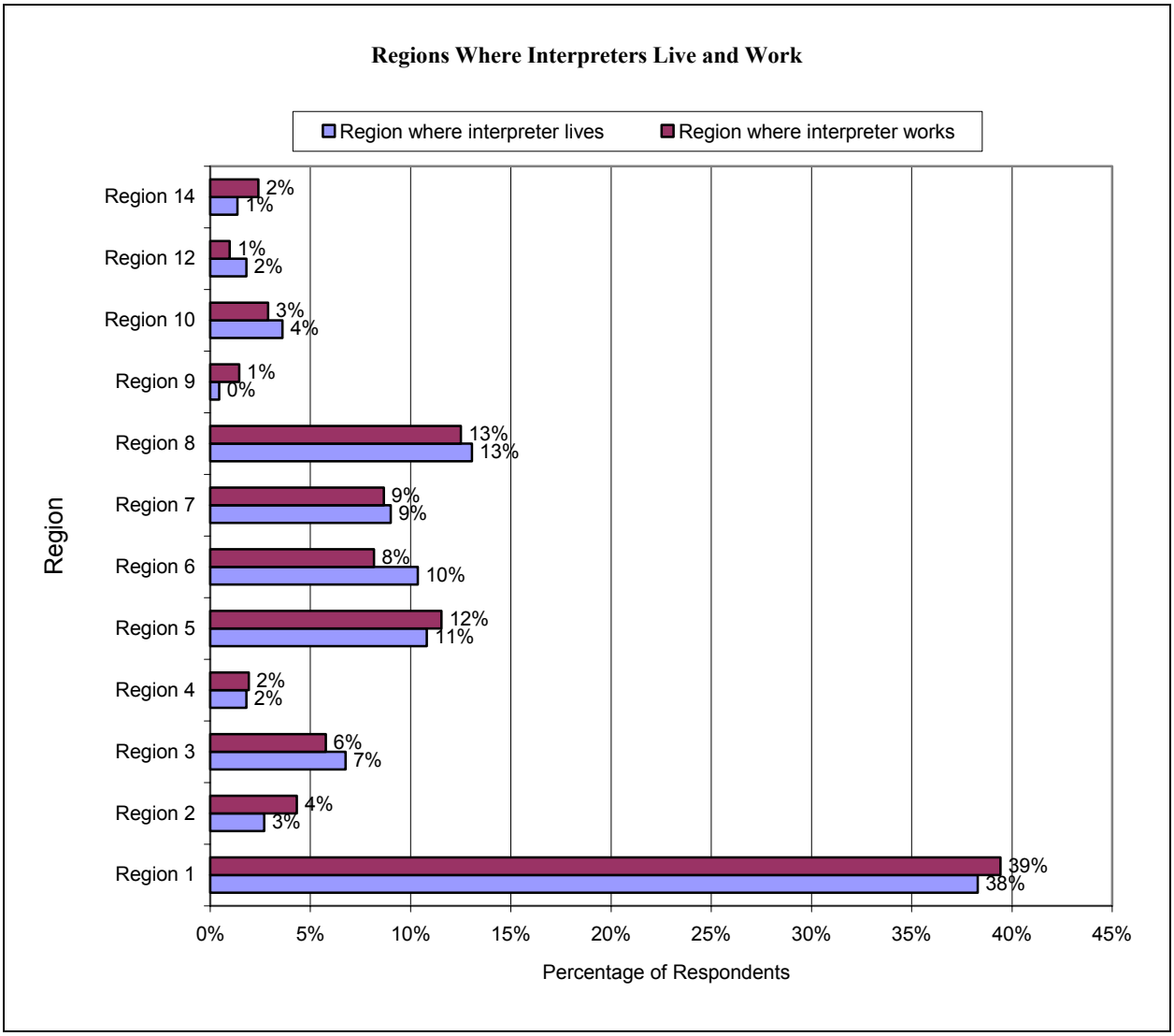

Figure 15

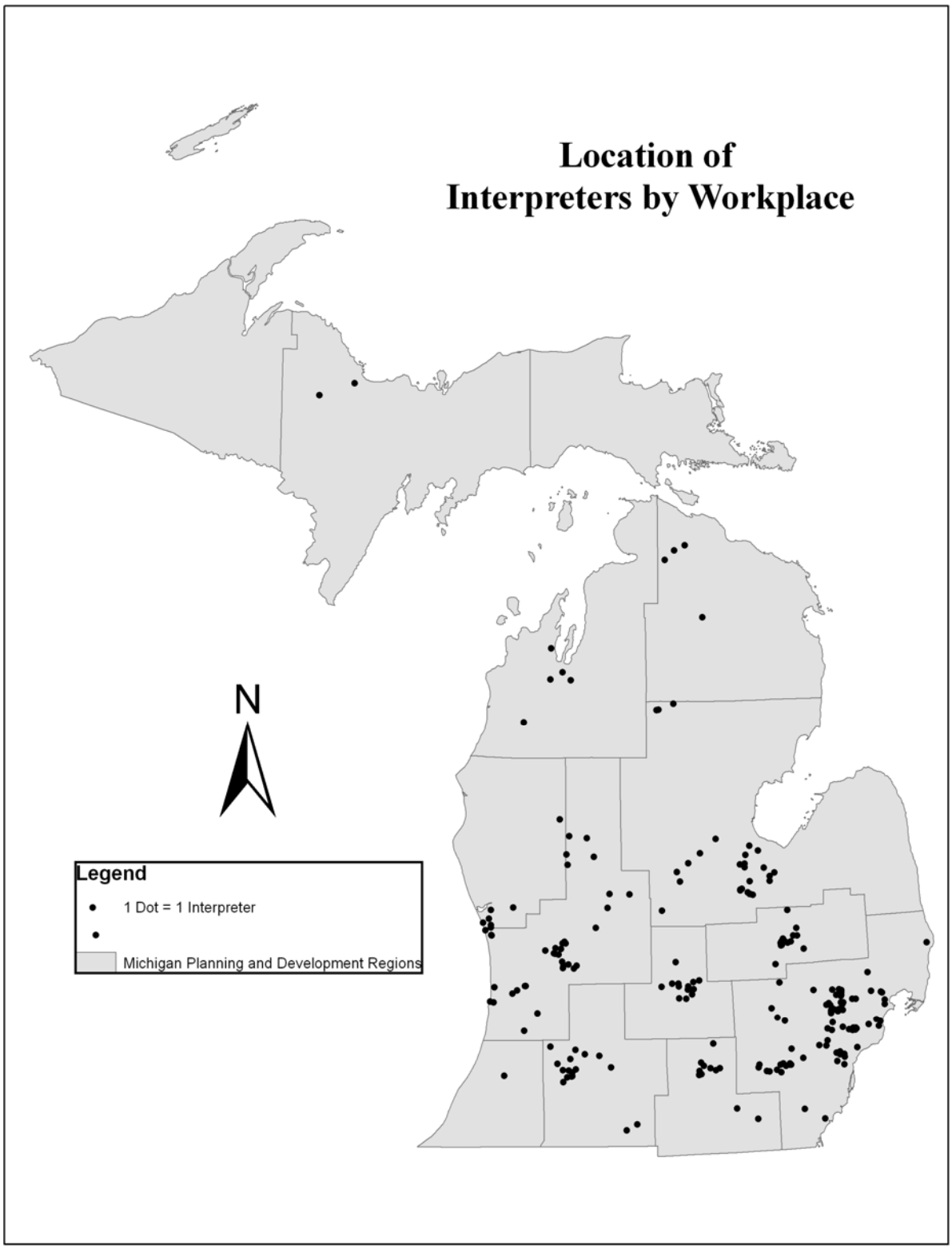
Location of
Interpreters by Workplace
N
Legend
1 Dot = 1 Interpreter
Michigan Planning and Development Regions

Figure 16

Certification

As noted in the introduction to this report, among the most important changes resulting from No Child Left Behind will be the requirement that all interpreters for deaf and hard of hearing people (both in schools and in the community) meet more stringent certification criteria than have been required in the past. Implementation of the Educational Interpreter Proficiency Assessment (EIPA), for example, will require all interpreters working in the schools to be certified. Only a portion of interpreters for the deaf and hard of hearing in Michigan at the current time are certified by one or more organizations, and there is some expectation that implementation of EIPA will make it even more difficult than at present for Michigan schools to recruit and retain adequate numbers of highly qualified interpreters.

Respondents to the survey conducted as part of this study were asked to report their certification status. The results are illustrated in Table 5, below. Approximately 70% of the respondents in this study indicated that they were certified through one of the certification programs, and a small number reported that they had achieved more than one certification. Nonetheless, the remaining 30% of interpreters are not certified at all. The distribution of an unduplicated count of interpreters by type of certification is illustrated in Figure 17.

The geographic distribution of certified interpreters for the deaf in Michigan closely matches the overall geographic distribution of interpreters. As expected, most are clustered in southeastern Michigan, the Lansing Area, Ann Arbor, Grand Rapids, Kalamazoo, along the I-75 corridor north of Saginaw, and northwestern Lower Michigan. Among the respondents in this study, there are no reported certified interpreters for deaf and hard or hearing people in the Upper Peninsula.

.

Table 5: Reported Certification Among Interpreters for the Deaf in Michigan, 2006

Type of Certification	Number Reporting	Percent Reporting*
RID Certified	**30**	**12.99%**
CI	3	
CT	16	
CSC	9	
OTC	1	
SC:L	1	
NAD Certified	**9**	**3.90%**
Level 5	2	
Level 4	5	
Level 3	2	
NIC Certified	**0**	**0.00%**
EIPA Rating	**8**	**3.46%**
MI-QA Certified	**131**	**56.71%**
Level III	66	
Level II	43	
Level I	22	
None Reported	**70**	**30.30%**
Total	**231**	**107.36%**

* Totals sum more than 100% as some respondents indicated they had more than one certification.

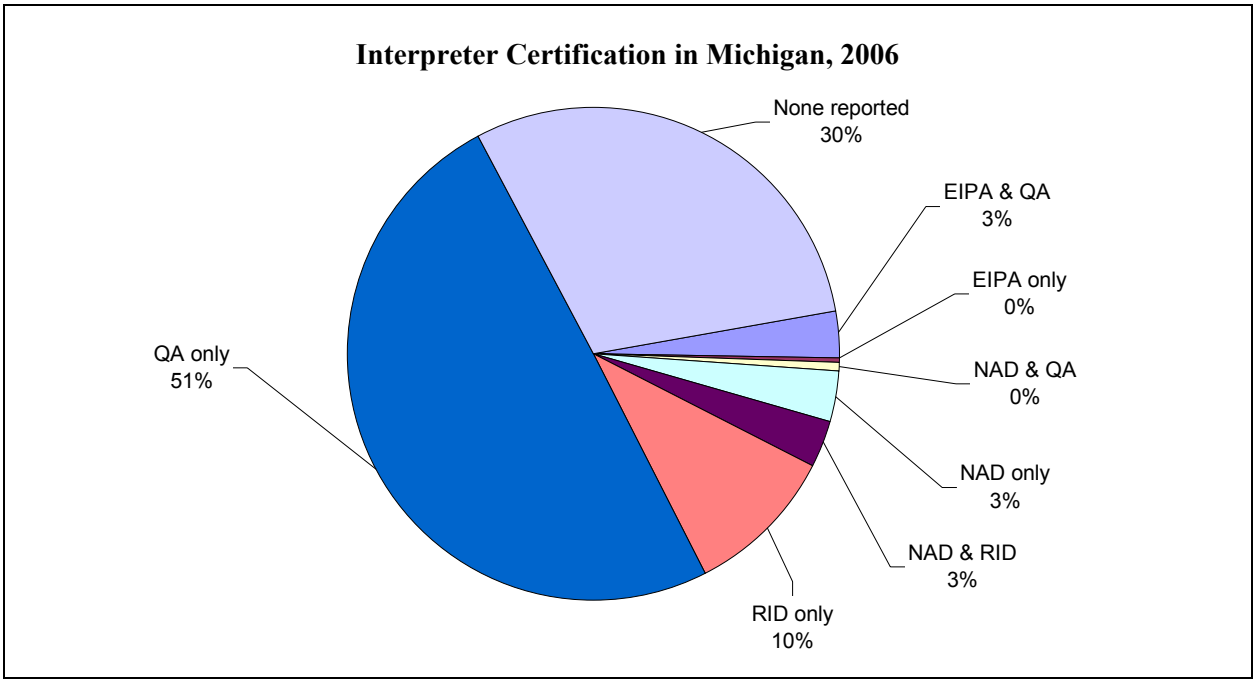

Figure 17

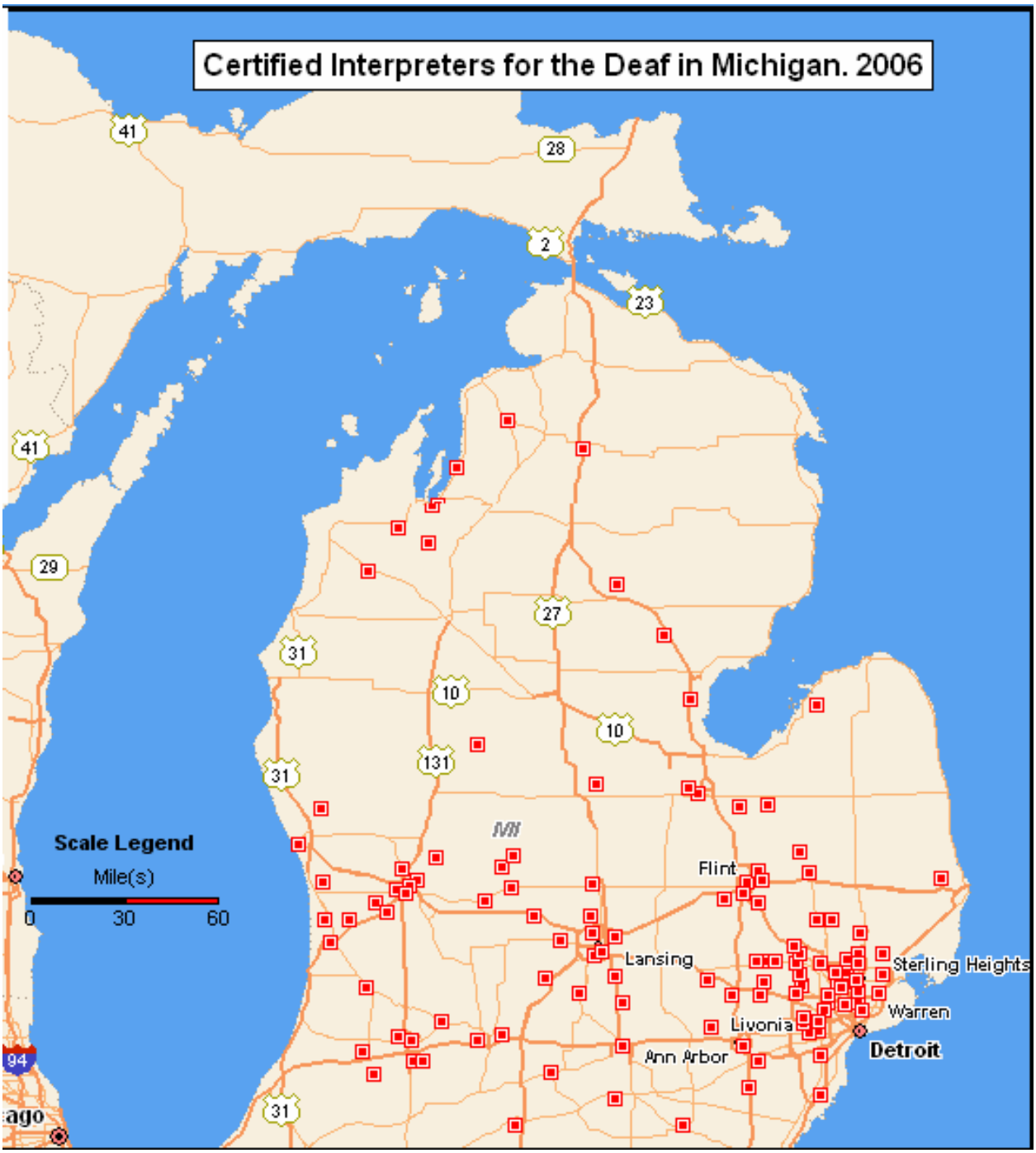

Figure 18

Most interpreters for the deaf in Michigan who are employed either full-time or part-time in K-12 education are certified by one or more of the certifying organizations. Ninety-one of 99 interpreters in K-12 (80 full-time and 19 part-time employees) are certified; 75% of all interpreters employed in K-12 settings are MI-QA certified, mostly at the MI-QA II and III levels.

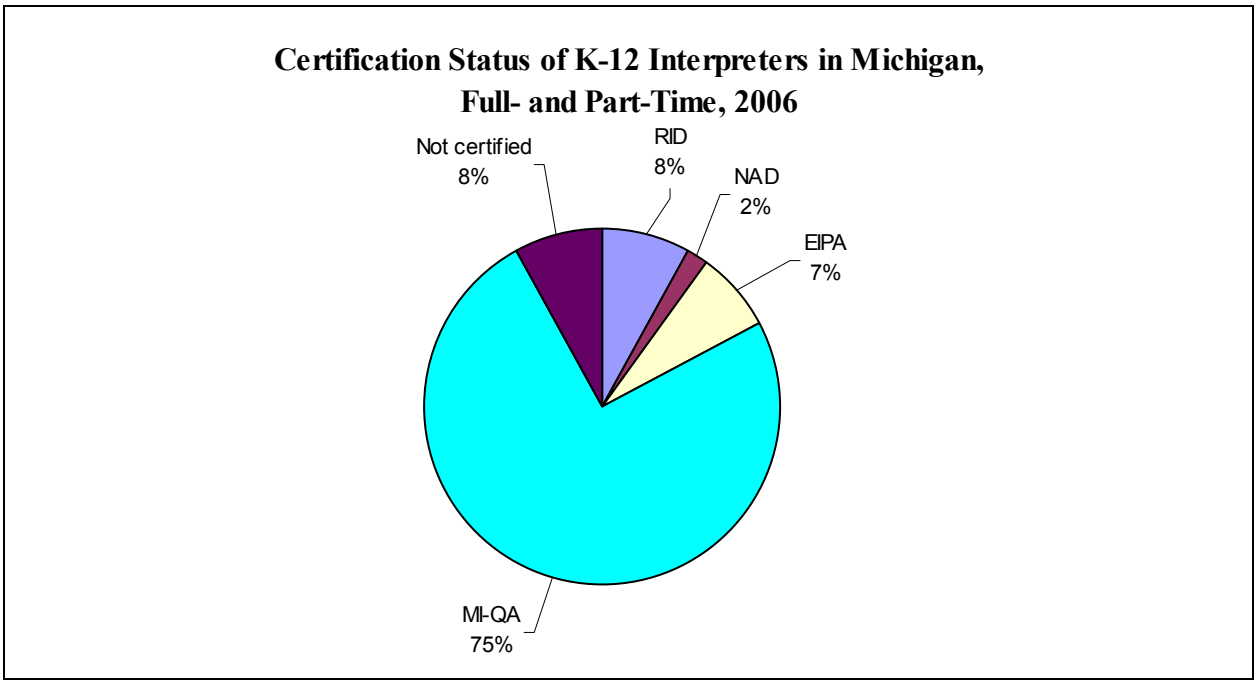

Figure 19

Respondents were also asked about their current work status as an interpreter. Out of the 230 who responded to this question, 51% reported that they work full time or more than 30 hours per week, as shown in Figure 20. A total of 40% of respondents reported that they work either part-time or occasionally as an interpreter; 9% reported that they do not currently work as an interpreter.

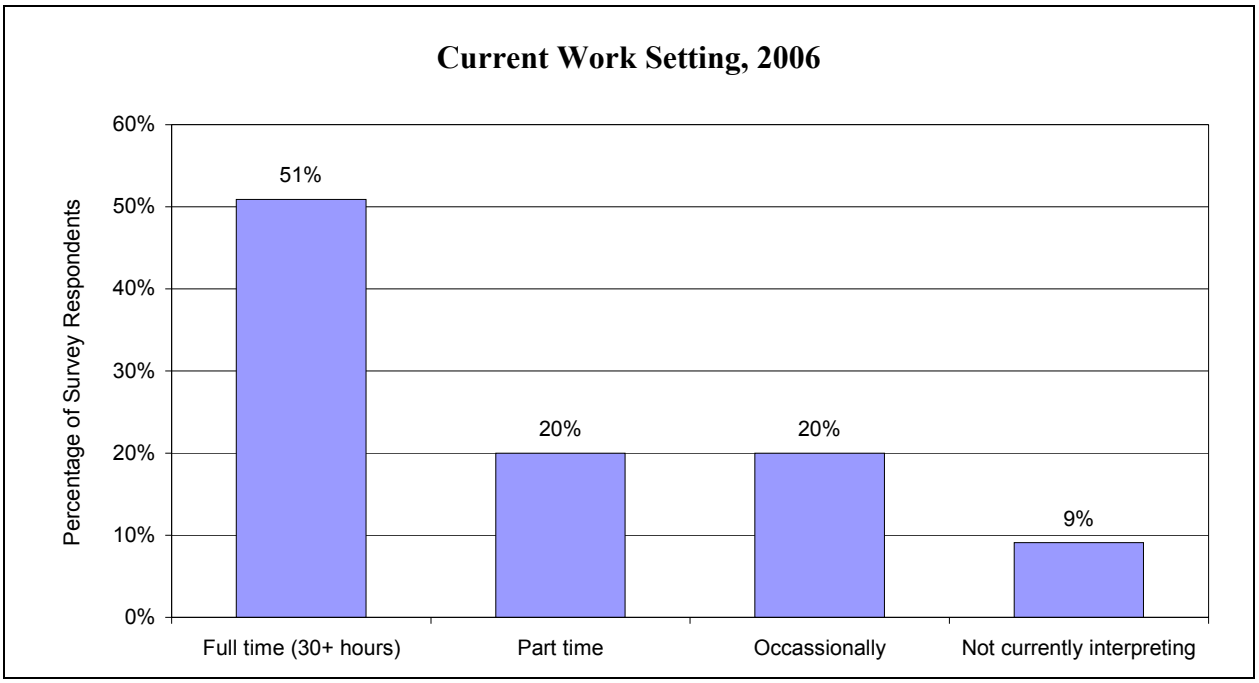

Figure 20

Respondents were asked to indicate if benefits such as health care, dental care, and sick leave, are provided as part of their compensation as an interpreter. As shown in Figure 21, the results are split: 46% of respondents receive full benefits as part of their compensation and 46% do not receive a benefits package. However, 40% of respondents reported working only part time or occasionally, so the high percentage of those that do not receive a benefits package is not surprising. Along the same line, respondents were also asked if they receive liability insurance coverage through their interpreter-related employer. As shown in Figure 22, 63% of interpreter respondents do not receive liability insurance coverage through their employers.

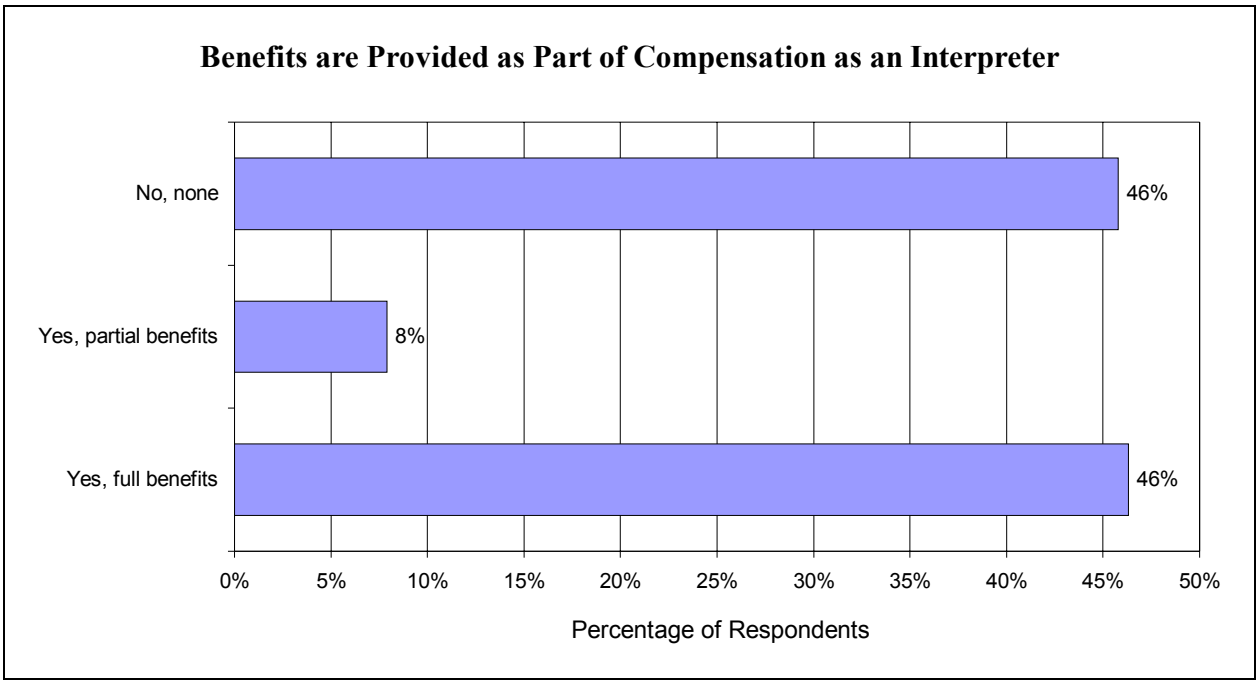

Figure 21

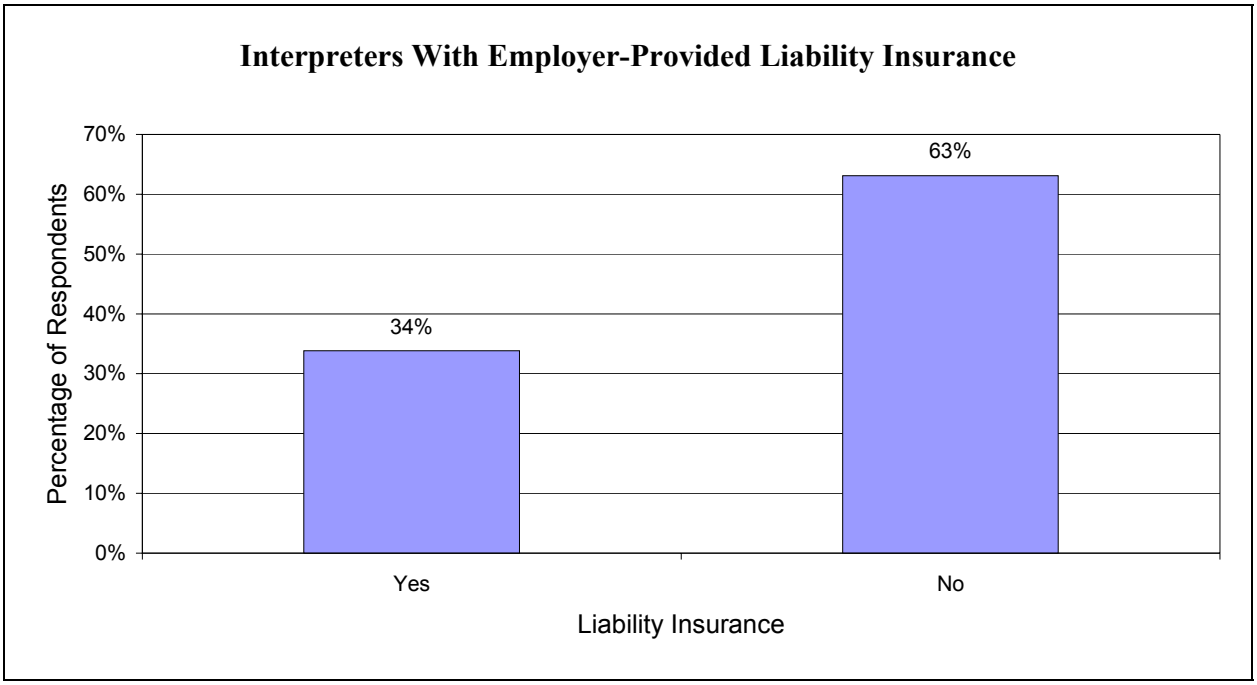

Figure 22

Respondents were asked to indicate if they currently work for an interpreter referral agency. As shown in Figure 23, half reported that they do. This should not be construed, however, to indicate that these individuals work exclusively for an agency. Many interpreters combine jobs to forge a career.

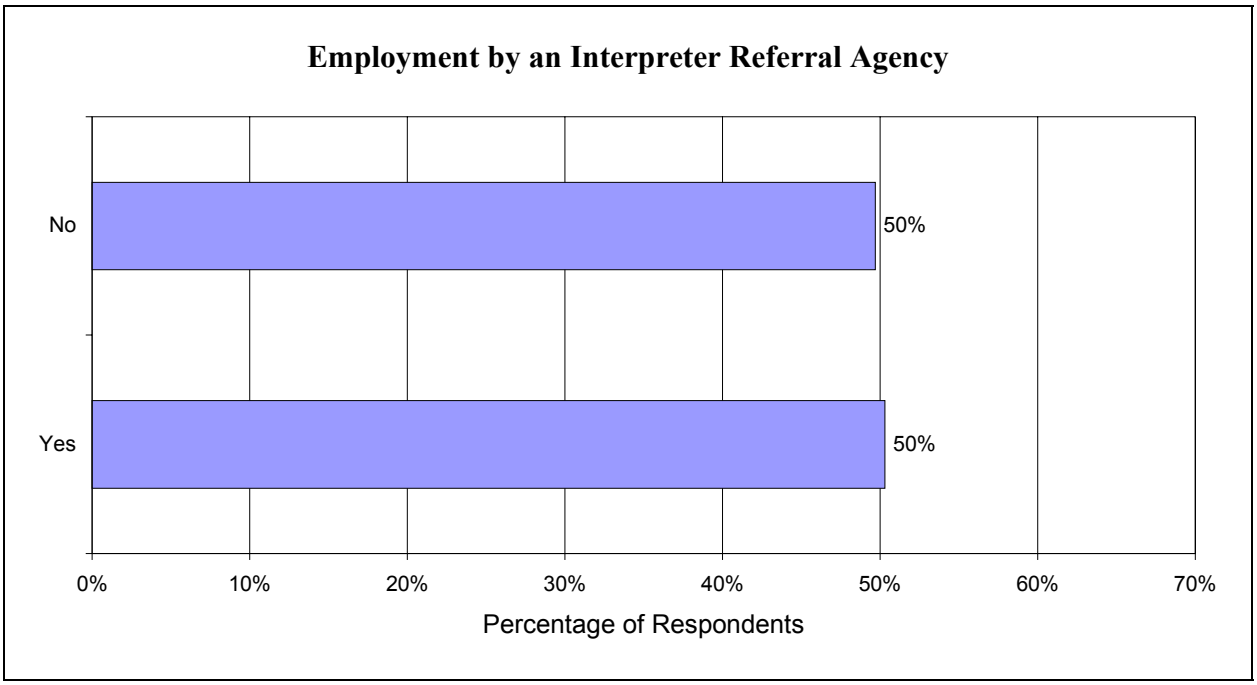

Figure 23

Interpreters may work in a variety of settings, including education, health care, government agencies, and the legal system. By far, the most common work setting for interpreter respondents is education; 73% of respondents reported they provide some of their services to K-12 education, and 61% indicated that they work in postsecondary education. About 60% of respondents indicated that they have worked in the health care and/or medical field, and 59% responded that they have worked in religious settings. The entire range of settings or environments that were presented to survey respondents is illustrated in Figure 24.

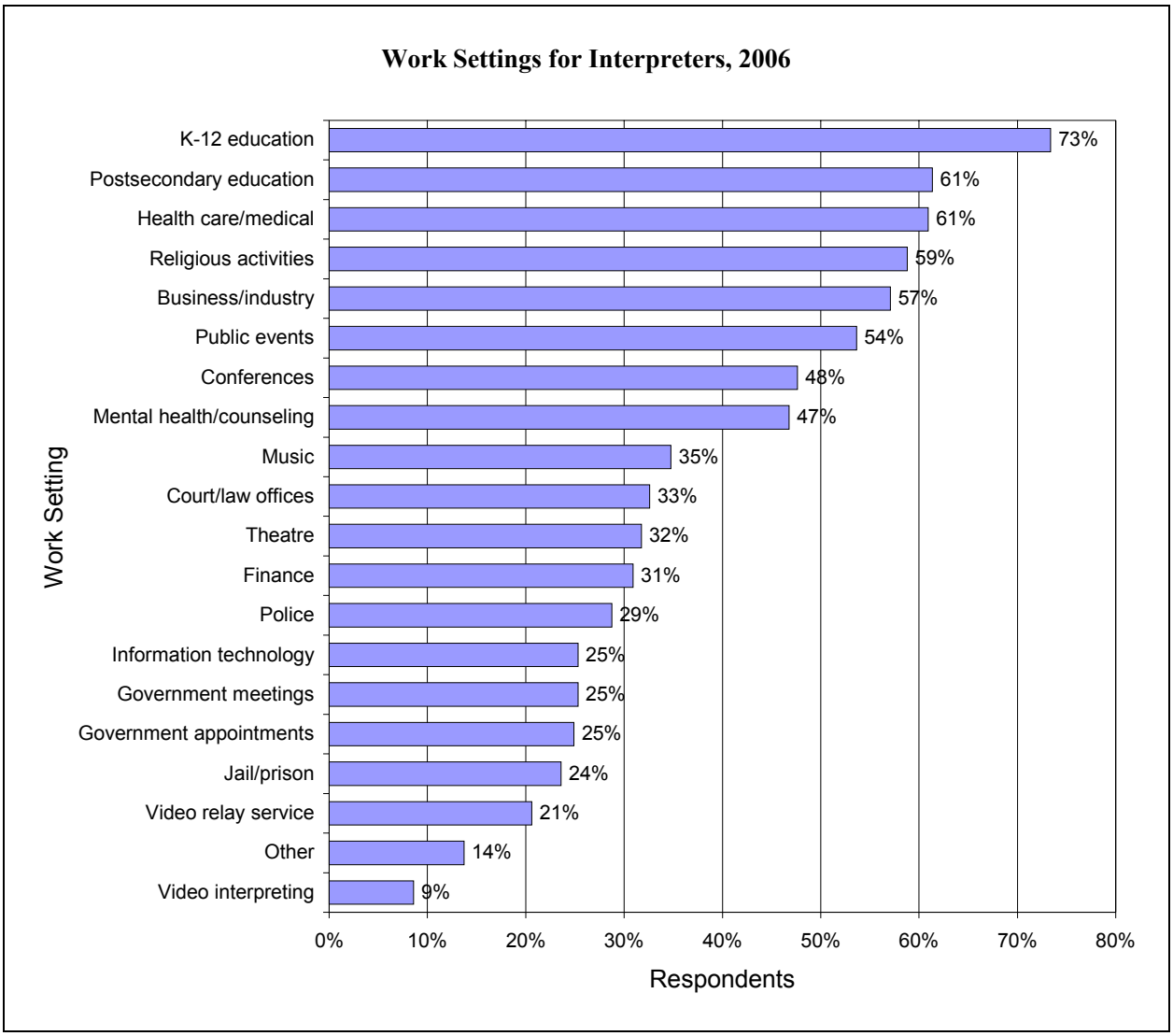

Figure 24

Note: Other work settings include funerals and weddings (4), adult education (2), postsecondary education (2), preschool (1), family reunions (1), personal shopping (1), athletics (2), vocational rehabilitation/training (2), union activities (1), television (1), auto shows and other special events (1), blind rehabilitation (1), church (1), medical and legal conferences (2), and private meetings (1).

Interpreters in K-12 Education

Among those respondents who reported that they have worked in a K-12 education setting, 23% reported that they are not currently employed in a K-12 school. Most of those respondents that are currently employed in K-12 education are employed full time (more than 30 hours per week); about 8% of all survey respondents are employed part time in K-12 education. Full-time K-12 employees represent 35% of the respondents in this study.

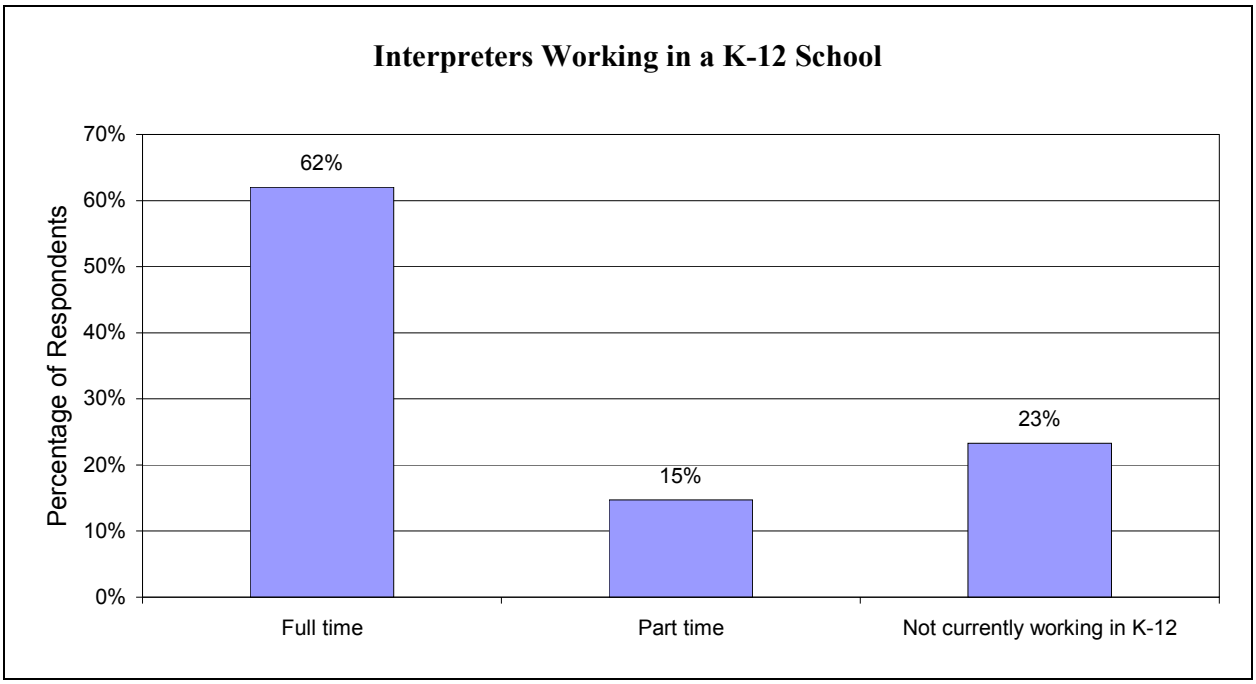

Figure 25

A majority of the interpreters who work in K-12 education work with students in mainstream, or full-inclusion, classrooms. As shown in Figure 26, 60% of interpreters work in mainstream classrooms all of the time; an additional 37% work in mainstream classrooms part of the time. Only 3% of respondents reported that they never work in mainstream classrooms.

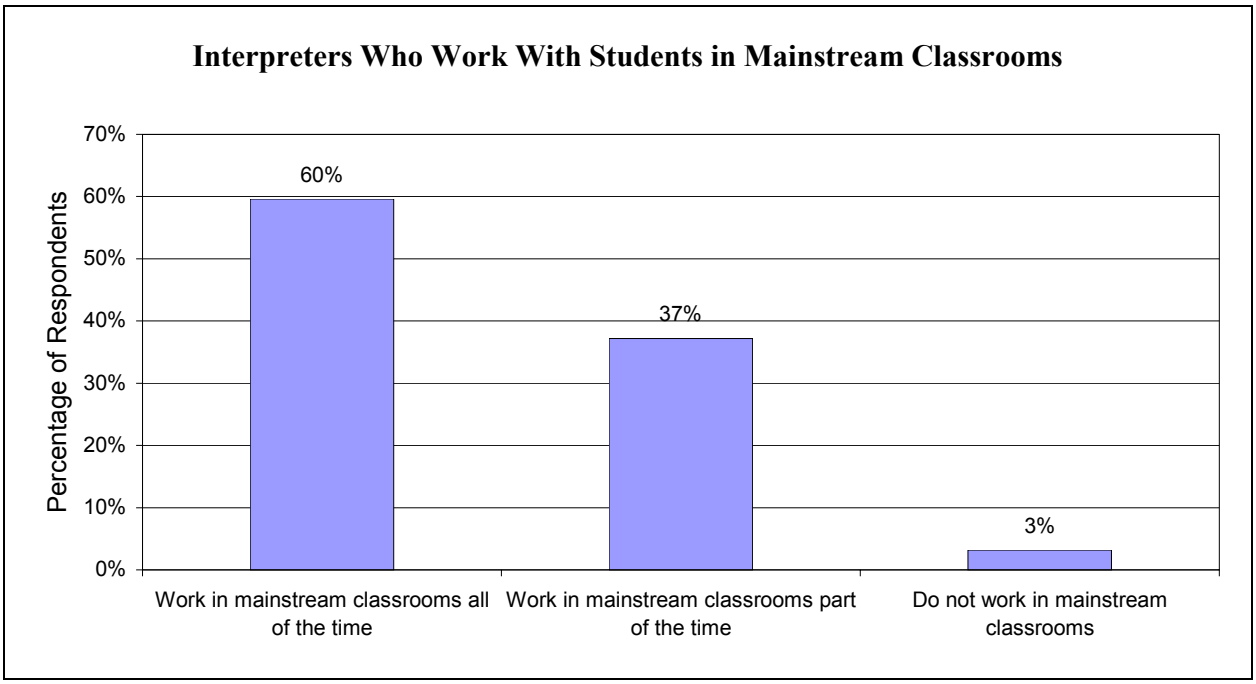

Figure 26

Respondents also indicated that they engage in a variety of activities that are not necessarily classroom interpreting. As shown in Figure 27, 80% of respondents indicated that they provide some interpreting services for students outside of the classroom. These services may include interpreting for after-school activities, interpreting for assemblies, interpreting during school trips, and interpreting during lunchtime in order to facilitate the social development of deaf and hard of hearing students. Additionally, 72% of respondents reported that they provide extra academic support for deaf and hard of hearing students, such as tutoring outside of the classroom (28%), collaborating with the classroom teacher to develop more effective ways of communicating subject matter to deaf and hard of hearing students (30%), or teaching American Sign Language (ASL) to students or school staff (24%). Conversely, about 45% of interpreter respondents indicated that they provide other, noninterpretation-related assistance to the teacher. These activities may include clerical work, playground supervision, or lunchroom duty.[9] In addition, interpreters sometimes need to interpret for the parents of deaf and hard of hearing children in their dealings with teachers and school administrators. Duties such as these are viewed by experts in educational interpreting as activities that tend to reduce the effectiveness of interpreters (RID, Standard Practice Paper, 2000).

[9] Interpretation is also a physically demanding activity. According to [SOURCE HERE], providing interpretation services requires approximately 13,000 movements per hour compared to approximately 25,000 movements for industrial workers during a typical eight-hour work day.

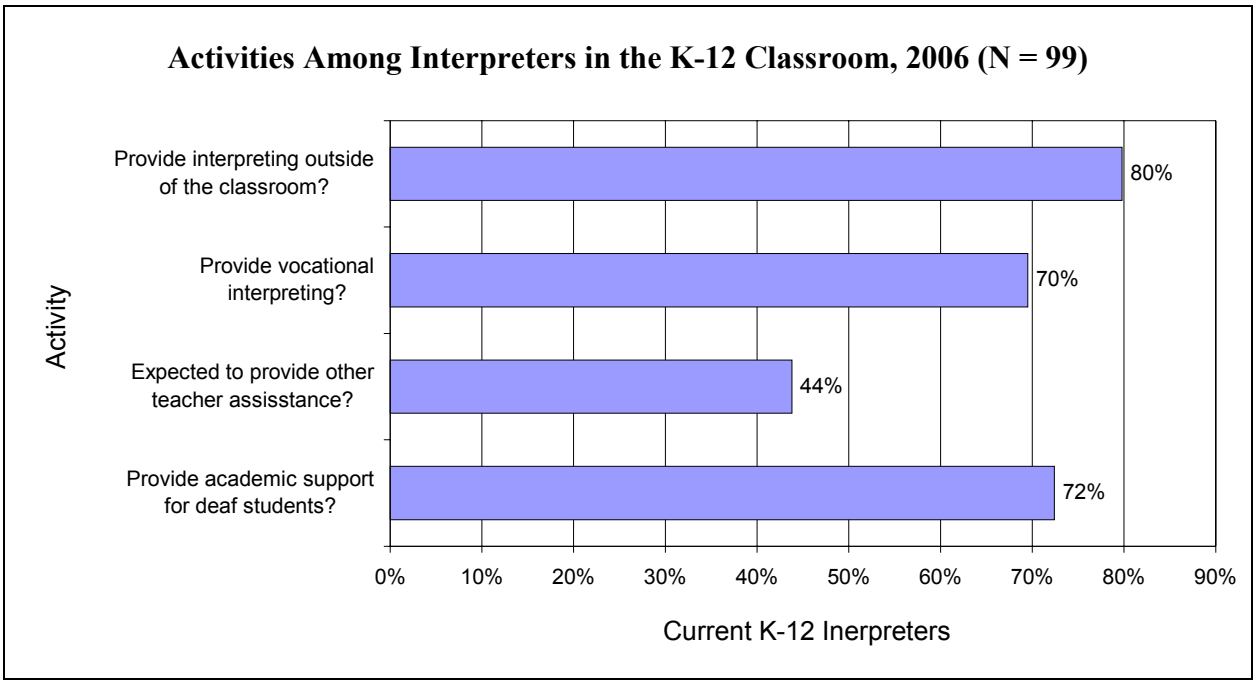

Figure 27

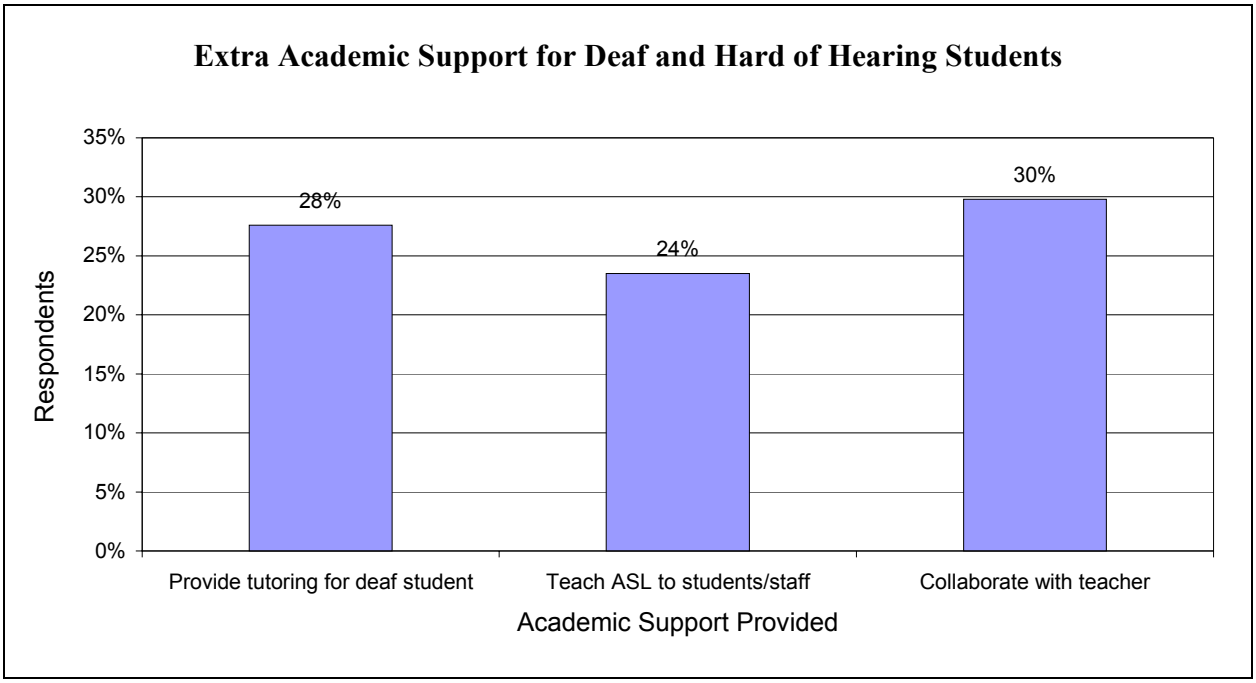

Figure 28

In another line of questioning, respondents were asked if they feel that the schools where they work adequately meet the needs of their deaf and hard of hearing students. A third of the respondents feel that current interpreters' services do not meet deaf and hard of hearing students' needs.

Two-thirds of the interpreters who were surveyed reported that they thought that interpreter services in their respective schools are "adequate." Respondents who indicated that current interpreter services are not meeting students' needs were asked to provide feedback as to what additional services might be needed in their school. Respondents particularly identified a need for more interpreters, especially substitute interpreters or to alleviate high student-to-interpreter ratios. Among the comments that were appended to the survey forms were the following:

- "We need more interpreters. There are no substitute interpreters available if I am sick."
- "We need more substitute interpreters or agencies to call to get coverage when an interpreter is out."
- "Many times students are not allowed to take courses of their choice due to the lack of Interpreter coverage. Also, we do not have adequate coverage for the times that interpreters are out sick. Interpreters either work with little or no break and sometimes students go without."
- "Because of a lack of interpreters- students are forced to take classes that they don't want. [For example,] if Johnny wants art then Kate must take art as well because there is only 1 interpreter to service both."
- "There are times I am the only interpreter in the building and I have 3 students mainstreamed in 3 different classes, yet the school won't hire a part time interpreter."

Other respondents indicated a need for more interpreters on the basis that students' needs are suffering because of a lack of interpreters:

- "We are ALWAYS short of interpreters in our district. So the students suffer because they have to share interpreters, so some students can't take the classes they want or they are forced to be in a classroom that isn't completely where they might belong because of the other deaf students' needs are over riding there own. Our district will hire anyone that can sign "yes and no" and give them a title just to be in compliance with an IEP [individualized education plan]."
- "More interpreters period! We try to serve the needs of 5 high school students and we only have three staff interpreters and NO SUBS! We many times have to 'double or triple up' in a class because there are not enough interpreters available. I think we should be paid an annual salary, rather than an hourly wage. It is very difficult to make ends meet when you receive no income from mid-June until September. I think mainstream educators need to be trained on how to use an interpreter as well as limitations the deaf student may face, for example, I have to explain to mainstream teachers every new marking period that my student(s) can't take notes on a lecture if the lecture is continuing while his/her head is lowered trying to write down the last point that was made."

- "Interpreters spend a great amount of time in front of students and we can understand a great deal of what is being taught. We sometimes hold the key to effective communication between the student, their school and their home. We are left out of the IEP and critical learning opportunities."

Additionally, interpreters who participated in this survey indicated a greater need to educate other staff and faculty on deaf and hard of hearing education and culture:

- "There needs to be a clear understanding that deaf children do not pick up English as a hearing child does. More training on educating the deaf. ITP's don't spend a lot of time on educational [interpreters]. It is a shame."
- "Interpreting cannot take the place of good quality teaching directly to [a] student. Often basic concepts need to be explained and understood before learning [a] lesson. Hearing classrooms move through information more quickly then deaf students can absorb."
- "Our special education teachers are teaching cross categorically. They do not have any training in deaf education. We do not have any self contained rooms for low language Deaf students. We have two deaf education teachers that do not understand the culture nor are fluent in ASL. As a result of that, we do not have a deaf education teacher at the high school level. We also have two interpreters that are unable to meet the demands of high school course work and therefore cannot convey concepts appropriately."
- "At our school the students are not being exposed to fluent visual language at a young enough age, preschool. As a result the students are behind in their language skills and playing catch up. This makes it difficult to interpret things they should already know."

Educating the Next Generation of Interpreters

Some of the key informants in this study indicate that the best interpreters for the deaf and hard of hearing have traditionally been the children of deaf adults—or CODAs, in common parlance—who typically grow up in a sign-language environment where their signing ability was learned early and was critical for the well-being of the family. Although a number of CODAs are active today as educators, interpreters, and administrators of programs that deal with deaf and hard of hearing people and deaf and hard of hearing education, the great majority of interpreters for the deaf and hard of hearing (including CODAs) are educated through formal post-high school training programs.

As discussed earlier, the administrative rules that govern assistive services for the disabled require that interpreters for deaf and hard of hearing students in Michigan schools be (1)

nationally certified, (2) Michigan certified at the QA II or QA III level, or (3) a high school graduate or equivalent who has had training at a community college or degree-granting institution that is approved by MDE. At the present time, there are three approved programs providing education for interpreters for the deaf and hard of hearing in Michigan: Madonna University in Livonia, Mott Community College in Flint, and Lansing Community College. Students who complete any of these three programs may apply for and take certifying exams; although, informants indicated that new graduates do not typically have either the skills or the experience to pass these exams right away or to be certified beyond the lowest or introductory level.

As part of the research conducted for this project, visits were made to each institution and a key informant interview was conducted with the director of each of these programs.

Madonna University

Madonna University offers two four-year undergraduate curricula in sign language studies. Both programs require 30 semester hours of core courses in ASL and finger spelling. The Sign Language Studies Interpreting Program requires between 21 and 40 additional hours of study of interpretation in a variety of settings along with seminars and field experience. This program leads to a bachelor of arts degree in sign language studies. A professional studies program is also offered that requires 14 additional hours of study in deaf and hard of hearing culture, community resources, and ASL beyond the core curriculum that prepares graduates to work with deaf and hard of hearing people in noneducational settings. This program often serves as a minor for students majoring in education or other fields.

There are approximately 120 students enrolled in the Sign Language Studies Interpreting Program at any one time. Approximately 8 to 12 students graduate from the interpreting program each year.

Mott Community College

Mott Community College offers a 60-credit-hour program in a variety of interpreting and related courses plus 9 to 11 credit hours of general education requirements that leads to an associate in

applied science degree. Required courses include ASL, current issues in deafness, blind-deaf interpreting, professional ethics and responsibilities, ASL to English interpreting, and other related courses.

According to the program director, there is considerable initial interest among students in sign language and potentially becoming an interpreter for the deaf and hard of hearing. The program year may start out with as many as 15 sections of ASL1 with 14 students in each section, or more than 200 students enrolled. Two years later, by the end of the program, the director indicated that there are usually no more than 15 students remaining in the program.

Lansing Community College

Lansing Community College (LCC) offers an associate in applied arts degree for sign language interpreters. This program requires a minimum of 66 credit hours including 53 required credit hours in such topics as ASL, finger spelling, deaf and hard of hearing culture and history, sign to voice, and an internship. Students may also opt to receive a Certificate of Achievement for sign language interpretation. This program has 34 credit hours of required courses in ASL, finger spelling, and interpreting along with 2 to 3 elective credits in deaf and hard of hearing culture and history, linguistic principles of ASL, and other similar courses.

Overall, there are about 480 students in the LCC Interpreter Training Program. New enrollments are limited to 50 per year, and 48 were accepted into the most recent class. Thirty-eight are expected to graduate from the program this year.

The Changing Environment for Deaf and Hard of Hearing People and Interpreters for Them in Michigan

Key informant interviews were conducted with 14 individuals who are quite knowledgeable about education for and communication issues of the deaf and hard of hearing and who, in almost all cases, are involved with deaf and hard of hearing people through their work. These

interviews provided great insight into the issues surrounding the education of deaf and hard of hearing children and the use of interpreters in K-12 education, interpreters working in other settings, the education of interpreters in Michigan, and the perceptions of the future supply and demand for interpreters from those who will be most directly impacted by these trends.

Educational Options for Deaf and Hard of Hearing Children

It is widely recognized within the community of deaf and hard of hearing individuals, educators of deaf and hard of hearing students, interpreters for deaf and hard of hearing people, government programs that deal with individuals who have disabilities, and educators who provide training to those who work with deaf and hard of hearing people that there are a number of alternative approaches that are being used to educate deaf and hard of hearing children. Historically, the most traditional approach is the residential school program such as that offered within the Michigan School for the Deaf (MSD), where communication, learning, and extracurricular activities are almost entirely conducted through the use of ASL by the children, teachers, and administrators 24 hours per day, seven days per week.[10] As a result, interpreters for the deaf and hard of hearing are typically needed only to provide communication for deaf and hard of hearing students with hearing individuals when they leave the MSD for vocational-technical training outside the school or for assemblies, graduations, sporting events, and other large events that involve both deaf and hard of hearing people and hearing people.

At one time, the MSD was the principal K-12 setting for educating deaf and hard of hearing children in Michigan, but enrollments have fallen over the decades as competing educational philosophies have arisen that encourage local K-12 education for deaf and hard of hearing children and as technological advances have made alternatives more feasible for at least some deaf and hard of hearing children. The MSD currently is the educational setting of choice for only a small minority of Michigan's deaf and hard of hearing children, but residential enrollments have risen slightly in recent years and there are, reportedly, as many day students attending the MSD as there are residential students. Some of the increase in enrollment, according to a key informant at the facility, has been the enrollment of more multihandicapped children with hearing loss who are better served at the MSD, according to their parents, than they are within local community schools. Assuming the MSD remains a viable option for educating

[10] The Michigan School for the Deaf also provides education to nonresident students who attend school daily.

deaf and hard of hearing children in the future, teachers and administrators who are certified in the education of deaf and hard of hearing students and are fluent in ASL will continue to be sought after.

At the other end of the educational spectrum is the handful of oral-deaf programs in Michigan. These programs reject the use of sign language and capitalize on any residual hearing available to children—especially those with cochlear implants—and teach them to communicate through oral speech. Oral-deaf programs are in place in the Grand Rapids, Berrien Springs, Redford Township, and Ida School Districts. A key informant who is involved with one of these programs reported that some of their students do have enough hearing capacity and acquire enough facility in oral speech to move out of this program and into mainstream K-12 programs, albeit sometimes with some assistance from a paraprofessional. While not always successful, this is the goal of the oral-deaf programs and this is the choice of some parents, especially those whose children have had a cochlear implant.

Most deaf and hard of hearing children in Michigan, however, do not attend the MSD, nor are they enrolled in an oral-deaf program. Based on the data available as well as interviews with educators at the MSD and elsewhere, the majority of deaf and hard of hearing children in Michigan are educated in programs that rely extensively on the services of interpreters for deaf and hard of hearing students and through the acquisition of proficiency in ASL. Some of these children are enrolled in centralized programs that bring together a critical mass of deaf and hard of hearing children from a number of nearby school districts who are educated by teachers of the deaf and hard of hearing and professional interpreters. Sometimes these programs also include children with other disabilities as well. Programs such as these are offered in the Detroit School District, the Dearborn School District for Wayne County deaf and hard of hearing children who do not reside in Detroit, Bloomfield Hills for Oakland County deaf and hard of hearing children, Lansing for deaf and hard of hearing children in the Ingham, Eaton, and Clinton Intermediate School Districts (ISDs), and a few other locations in Michigan. Most deaf and hard of hearing children, however, are in smaller or more rural districts and are highly dependent on the services

of an interpreter for the deaf and hard of hearing who serves, according to one key informant, as the "communication conduit between deaf students and everyone else."[11]

Interpreters in the Classroom

Ideally, the interpreter for deaf and hard of hearing students is a member of a team of professionals that provide total educational support for the child. The team typically includes teaching consultants, a psychologist, a speech pathologist, and teachers' aides in addition to the classroom teacher with special certification in deaf and hard of hearing education. Away from the centralized programs described above, however, the role, status, and activities provided by interpreters for deaf and hard of hearing students are often quite different. Informants in a variety of settings are consistent in reporting three important factors about interpreters for deaf and hard of hearing students in many (if not most) Michigan school districts: (1) there is a shortage of well-trained, certified interpreters for deaf and hard of hearing students in Michigan K-12 schools; (2) interpreters in K-12 settings often work outside of their appropriate professional setting; and (3) interpreters for deaf and hard of hearing students in Michigan need to be better educated, including more practical experience comparable to student teaching and more subject-matter education that allows them to interpret more seamlessly with a wide variety of classroom topics.

Shortages of Qualified Interpreters

All key informants who participated in this study agreed that there is a shortage of trained and certified interpreters for deaf and hard of hearing children in all K-12 settings, as required by administrative regulation. Michigan Administrative Rules for Special Education (MARSE) require interpreters to be hired with at least a Michigan QA II level of expertise, but school districts across Michigan have reportedly had difficulty recruiting interpreters at this level. There are a number of reasons for this, including low wage levels, competition from community interpreting agencies, and increasing VRS availability, and in some regions of Michigan, there

[11] In addition to those interviewed for this study, advocates for the use of ASL and sign language interpreters also point out that the parents of some mainstreamed deaf and hard of hearing students have little or no proficiency in ASL and, therefore, interpreters in the classroom may become the principal communication model for some deaf or heard of hearing students.

simply are no qualified interpreters within commuting distance. Even school districts in more densely populated areas may have trouble hiring as many certified interpreters as desired. Ingham ISD, for example, has 13 interpreters on staff to serve approximately 30 deaf and hard of hearing children from the Ingham, Eaton, and Clinton ISDs. Of these, only two have achieved the Michigan QA II level of certification. Seven are certified at the QA I level, two have associate's degrees but are not certified, one is certified within another interpreter program, and one is neither certified nor has any post-high school degree at all. Some other comments made about this include the following.

- "Many of the school interpreters do not meet MARSE certification requirements due to a lack of qualified interpreters."
- "There are not enough QA II interpreters available."
- "Absolutely not enough qualified interpreters. There are a lot of signers out there, that is people with one, two, or three classes in signing, and they can communicate with deaf people. But interpreting is a higher skill set."

Informants also indicate that noncertified interpreters and interpreters who have little or no formal training are hired when needed as this is allowed under current MARSE rule. If no highly trained or certified interpreter for deaf and hard of hearing students is available to hire, MARSE allows schools to hire a "a high school graduate, or equivalent, with advanced training in a community college, agency, or degree-granting institution" *if one is available.* As a result, informants indicated that some school districts have hired individuals with some signing skills but with no formal training because trained, certified interpreters are reportedly not available in the area. As these individuals do not meet the criteria to be hired as interpreters, they are typically hired as paraprofessionals who can interpret and assist the classroom teacher with the one or two deaf and hard of hearing children in the school. One informant also indicated knowing of a few cases where uncertified interpreters were kept on after unsuccessful attempts to find certified interpreters, but the job title was changed to paraprofessional or educational aide in order to "grandfather" these employees in and, simultaneously, get around the MARSE guidelines. Even more prosperous school districts, such as the Bloomfield Hills School District, that can afford to hire enough qualified interpreters and pay them well enough to minimize turnover find, according to one informant, that it is difficult to find highly qualified substitute interpreters to fill in when full-time staff are temporarily unavailable.

Although several key informants speculated that some school districts hire paraprofessionals to serve as interpreters instead of hiring trained interpreters in order to save money, no definitive evidence was provided to support this. Nonetheless, school districts do save money when they hire paraprofessionals as they are paid less than interpreters. In a twist on this practice, some key informants indicated that educated interpreters are hired as "human add-ons to the classroom" rather than as interpreters and are provided a "less than desirable salary." In other words, some interpreters may be hired as paraprofessionals but are expected to be teachers' aides working with deaf and hard of hearing children. In contrast, some high school graduates with signing skills may be hired to be teachers' aides but are expected to provide interpreting assistance for deaf and hard of hearing students. To put this in a financial perspective, one urban school district official reported that interpreters are paid $12 to $16 per hour plus benefits for a six-hour day plus overtime for working at extracurricular activities. Some other districts are reported to employ interpreters on a part-time basis only and, thus, do not have to provide them with benefits. Teachers' aides are often part-time workers, they typically are paid $8 per hour, and they usually receive no benefits. As a result, virtually all of the informants indicated that more skilled and more experienced interpreters who are working in the schools often leave for better paying interpreting jobs elsewhere—often in community interpreting agencies or, more recently, serving as interpreters for VRS.

Professional Status of Interpreters

Beyond the salary level, there is also the issue of professional status and respect, the opportunity for advancement in one's chosen profession, and working outside of one's area of training and competence. In blunt terms, many interpreters for deaf and hard of hearing students are providing services for which they are not explicitly trained or that require much less education, skill, and experience than they have. Examination of job postings from around the state for interpreters that was provided during one of the key informant interviews, for example, included only one opening for a full-time, certified interpreter. In contrast, four or five other openings were all for classroom aides with signing skills or for part-time interpreters, but without any certification level specified. One educator noted that even where interpreters perform as part of the educational team dealing with a deaf or hard of hearing student, they are often not perceived as educational professionals by the other members of the team. Another confirmed this observation by noting that some school principals typically think of interpreters for deaf and hard

of hearing students as technicians who are trained within a vocational track rather than as professionals trained within an educational track.

Another factor that often goes unnoticed by the general public is that interpreters for deaf and hard of hearing students—whether employed as a professional interpreter or as an educational aide that provides interpreting services—often work in classrooms with a variety of disabled students. Some of these children are multihandicapped with impairments that go beyond deafness. These children also may exhibit a widely varying range of cognitive levels and, thus, require a variety of services beyond interpreting. High-level functioning students with a hearing loss clearly benefit from good interpreting skills. Learning disabled children who are deaf or hard of hearing and in the same classroom may not need high-level interpreting skills at all. Well-trained interpreters for deaf and hard of hearing students are not typically trained to work with learning-disabled children and, thus, their interpreting skills may not be consistent with the interpreting skills that learning-disabled children or other multihandicapped children may require.

Educational Criteria for Interpreters

Beyond the first two concerns discussed above, several of the informants who participated in this study also indicated that the level of education and experience among interpreters for the deaf and hard of hearing—especially newly graduated interpreters for the deaf and hard of hearing—needs to be enhanced. Simply put, the most highly skilled interpreters frequently leave education to provide interpreting services in other sectors that can offer full-time employment, better salary levels, and fringe benefits including health care and professional liability insurance. As one informant put it, the schools are faced with a "catch 22" situation. Schools claim that there are not enough qualified interpreters available, so they hire minimally qualified interpreters and pay them very low wages. Low wages keep the more qualified interpreters from taking these jobs because they can earn more money working elsewhere, thus exacerbating the problem.

Although this issue is discussed more fully in a later section, widely shared sentiment calls for more education and training overall, more education in cognitive development and teaching skills for students who plan to work with deaf and hard of hearing children in K-12 education, broader general education for all potential interpreters so they can provide knowledge and

experience in a wide variety of interpreting settings, and more practical experience interpreting under supervision—the equivalent to student teaching—for all students who are planning to be interpreters.

Related Concerns

Key informants who participated in this study were not at all reticent to identify concerns they have for the needs of deaf and hard of hearing children, and they were quite willing to provide suggestions to address each of these concerns. Several of these concerns parallel or expand on some of the issues presented in the prior section.

Teachers of Deaf and Hard of Hearing Students

In order to make sure that deaf and hard of hearing children do not fall behind in their education, well-trained teachers of deaf and hard of hearing students are needed in addition to well-trained interpreters, according to one well-placed key informant. However, as other comments indicate, there are some shortages in this field just as there are among interpreters, and there have been some dramatic changes among teachers of deaf and hard of hearing students in recent years. In the past, one of the preferred career paths for highly educated deaf and hard of hearing people was in the field of education. This is no longer the case. One educator of deaf and hard of hearing students reported that of roughly 750 deaf and hard of hearing education graduates in the United States per year, only 35 are deaf or hard of hearing, and half of these people leave education within five years.

Two factors are contributing to this change. First, "deaf educators can make better money elsewhere and [they] don't have to deal with behavioral problems of children in the classroom." Second, technology—especially in the form of the Internet—has provided deaf and hard of hearing people with a variety of opportunities beyond education. Deaf and hard of hearing people can use the Internet to telecommute, establish home-based businesses, and the like.

The result of this, according to one educator who participated in this study, is that school districts are not typically sensitive to the needs of deaf and hard of hearing children, and without educators who themselves are deaf or hard of hearing or educators who may have deaf or hard of

hearing parents (i.e., CODAs), they may not initiate educational policies that may be most beneficial for young deaf and hard of hearing children. This argument refers to the need for preschool children to be exposed to and taught ASL by adults and other children with these skills first so that they can communicate, and then be taught English and other subjects as they get older. This is a position that educators who are deaf or hard of hearing and CODAs recognize more clearly than what one informant refers to as the "educational establishment."

Related to this is the claim that the greatest need for deaf and hard of hearing children is to have interpreters who "know how to interpret for children in education." What is meant by this is the need for individuals working with deaf and hard of hearing children in the schools who have high-level interpreting skills plus knowledge of educational theory regarding how children learn, how to work with children, developmental psychology, and other similar knowledge. Another informant took this one step further by suggesting that all interpreters for deaf and hard of hearing students have specific subject-matter knowledge. For example, an interpreter working with deaf and hard of hearing children who are learning science should have subject-matter knowledge of science, not just interpreting skills. Another key informant suggested that deaf and hard of hearing students would be best served by having a bicultural, bilingual approach to education that uses ASL as the foundation. In this approach, deaf and hard of hearing students learn ASL as their first language and then are instructed in all other subjects by teachers who "speak" ASL. English is then learned as a second language.

One suggestion for achieving this is that all teachers of deaf and hard of hearing children be bilingual. That is, teachers of deaf and hard of hearing children must demonstrate that they can successfully communicate in both English and in ASL. A related suggestion is that the MDE establish a specialized certification for teachers who get a degree in such topics as sign language, sign language studies, or deaf studies. Suggestions from other informants include hiring deaf and hard of hearing instructors and paraprofessionals to work with deaf and hard of hearing children or, if deaf and hard of hearing adults are not available, to hire hearing adults with very good signing skills to work with deaf hard of hearing children in support of their teachers.

Improving Deaf and Hard of Hearing Education

Regardless of the specific suggestion offered, all of the preceding comments imply a need for more and better trained interpreters for deaf and hard of hearing students. Meeting this need, however, is not a simple task as there are several barriers that work against these goals, including the issue of wages and salaries discussed earlier, educational policies, the changing status of deaf and hard of hearing people in the United States, and the impact of new technologies.

Compensation is a problem for K-12 job retention among interpreters for the deaf and hard of hearing even when these individuals are hired as interpreters and paid accordingly. As one informant noted, "Qualified people are not willing to work for $12 an hour when $25-an-hour jobs are available." Add to that the speculation that there are some less qualified individuals working in some school districts who would not qualify for a better paying job in a more demanding environment, and that individual will be left to work with deaf and hard of hearing children after more qualified interpreters leave to work in other settings. According to one informant who participated in this study, interpreters who continue to work in schools and maintain or even upgrade their interpreting skills and professional certification are often not adequately recognized for these achievements. Fifteen or 20 years of experience as an interpreter in a classroom does not translate into the same increase in salary level that teachers with 15 or 20 years of experience are likely to receive. Also, unlike teachers, who typically see significant financial recognition for more education and receiving certification in a specialty, interpreters typically get very small increases when they reach and maintain their levels of certification.

Other barriers cited include instances of a lack of attention to deaf and hard of hearing children by some school administrators, limited budgets and limited recognition for educators of deaf and hard of hearing children, and consolidation of children with various disabilities into one classroom for disabled students. One informant noted that deaf and hard of hearing children do not typically view themselves as either bodily or learning disabled, but when they are put into the same classroom with bodily and/or learning-disabled children they tend to be treated as if they are disabled as well, and this may be counterproductive. In contrast, another educator of deaf and hard of hearing students opined that mainstreaming deaf and hard of hearing students might be a way of hiding or "burying" deaf and hard of hearing children so they will not stand out and

will likely need less special educational services than other disabled students. Another informant suggested that mainstreaming multiple-disabled children and children with mental disabilities tends to garner the most attention from teachers, leaving little time or attention to children who are deaf and hard of hearing. Regardless of one's opinion as to the value of mainstreaming deaf and hard of hearing children and the lack of attention that may result, the presence of deaf and hard of hearing children in K-12 classrooms will continue to require the employment of interpreters for the majority of deaf and hard of hearing children in Michigan.

The most significant barrier to placing an adequate number of highly qualified interpreters within Michigan's K-12 classrooms, however, may be technology. The advent of the Internet has led to two dramatic innovations in communication that are quickly changing the environment for deaf and hard of hearing people across the nation. Electronic mail, in particular, along with instant messaging and collaborative software has made it both possible and feasible for deaf and hard of hearing people to pursue a wider variety of occupations and careers than ever before. As a result, fewer deaf and hard of hearing people are reportedly pursuing careers in deaf and hard of hearing education and, consequently, their influence in shaping deaf and hard of hearing education may be diminished.

Even more important is the establishment of Internet-based VRS for deaf and hard of hearing people and, with the support of the Federal Communications Commission, the emergence of commercial VRS providers that are changing the way many deaf and hard of hearing people communicate with each other and with the hearing population.[12] This service is growing very quickly, thus creating considerable demand for highly skilled interpreters who need to be available 24 hours per day, seven days per week. Sorenson Communication has established a relay center in Michigan and is aggressively recruiting highly skilled and certified interpreters through the state or, as one informant put it, "cannibalizing" the pool of available interpreters with high salaries, good benefits, and steady, predictable work.

[12] Video relay calls are placed over a high-speed or broadband Internet connection (e.g., DSL, cable, or T1 line) using a videophone appliance connected to a TV, or through a personal computer equipped with a Web camera and electronic meeting software. The deaf user sees an ASL interpreter on their TV and signs to the interpreter, who then contacts the hearing user via a standard phone line and relays the conversation between the two parties. Hearing people can also place video relay calls to any deaf or hard of hearing individual by calling the service using a standard telephone. (www.sorensonvrs.com)

VRS, e-mail, real-time captioning, videophones, and video relay interpreting (VRI) have been embraced by much of the deaf and hard of hearing community as they have provided deaf and hard of hearing people with a great deal of independence that has not been available in the past. These technologies reduce the dependence of deaf and hard of hearing people on family and friends for routine communications and they allow deaf and hard of hearing people to participate in routine forms of commerce—from banking to ordering a pizza—that has been difficult, time consuming, and potentially expensive in the past.

It has also been suggested that these technologies have the potential to meet many of the unmet need for interpreting services, including in educational settings, in the future. At the present time, however, the general consensus is that these new technologies—especially VRS—are attracting the most highly qualified interpreters for the deaf and hard of hearing and, thus, making it even more difficult for school districts across Michigan to adequately and appropriately meet the need for interpreters for deaf and hard of hearing students.

Video Relay Service in Michigan

The establishment of a VRS interpreting center in Michigan by Sorenson Communications in 2005 is widely believed to be accelerating the competition for well-trained, certified interpreters for the deaf and hard of hearing in Michigan. According to an informant at Sorenson Communication, only 8% of the deaf and hard of hearing population in the United States is currently being served by VRS technology, yet growth has been so quick that they, too, are reporting a shortage of highly qualified interpreters for the deaf and hard of hearing. Informants at each of Michigan's three ITPs report that this competition has improved the job prospects for some of their recent graduates, although this may result in fewer new graduates who are available, or willing, to work in K-12 education. It is also implied that those who are not recruited for jobs in VRS may not be as highly skilled as those who are recruited. At the present time, the criteria for employment by Sorenson Communications to work as a VRS interpreter is five to ten years of interpreting experience and RID (Registry of Interpreters for the Deaf, Inc.) certification. In Michigan, this has been modified to accept interpreters with QA II or QA III certification.

Two possible unanticipated consequences of the demand for highly skilled interpreters by Sorenson and other VRS providers[13] may ultimately be (1) more interest in a career as an interpreter and (2) higher educational requirements for students learning to be interpreters. Sorenson company employees note that there have been few full-time positions available for interpreters that offer regular salaries and benefits such as health insurance and a retirement plan outside of the K-12 school environment. This circumstance has probably discouraged some people from becoming interpreters for the deaf and hard of hearing. In comparison, Sorenson employees believe that VRS-generated demand for interpreters now and in the future will encourage more interest in this profession than ever before. It is also likely that in the future ITPs that offer more extensive education and practical experience to interpreters in training will produce more desirable candidates for VRS employment, thus potentially raising the educational standards for all interpreter students.

Based on the employment criteria noted earlier, most new ITP graduates are not qualified to work as VRS interpreters as they neither have the requisite experience nor are nationally certified. As a result, Sorenson is investing extensively in professional development for its new employees, including the provision of additional interpreter training to new employees, assisting employees to be become nationally certified, and providing flexible work schedules so that employees may attend classes while they are working. One suggestion from Sorenson to expand the skills of new interpreters is to have ITPs develop two new internship programs that incorporate some of the distinct experiences that are respectively needed to successfully become a VRS interpreter or to become employed in community interpreting.

[13] Communication Access Center for the Deaf and Hard of Hearing is another VRS service that operates a relay center in Michigan.

Supply and Demand for Interpreters

Michigan's Supply of Interpreters

Based on the mailing lists of interpreters for the deaf and hard of hearing in Michigan that were obtained from the Division of Deaf and Hard of Hearing and the Michigan Department of Education, it is estimated that there are 718 individuals in the state who currently provide professional interpreting services, who formerly provided interpreting services, or who consider themselves interpreters for the deaf and hard of hearing.[14] Using the data compiled from the survey of interpreters conducted earlier this year and assuming that the characteristics of the responses received are a reasonable representation of all interpreters in Michigan at this time, it is estimated that approximately 91% or 652 of the interpreters for the deaf and hard of hearing in Michigan are currently working. Slightly more than half work full time, 20% work part time, 20% work occasionally, and 9% indicated that they are not working at all.

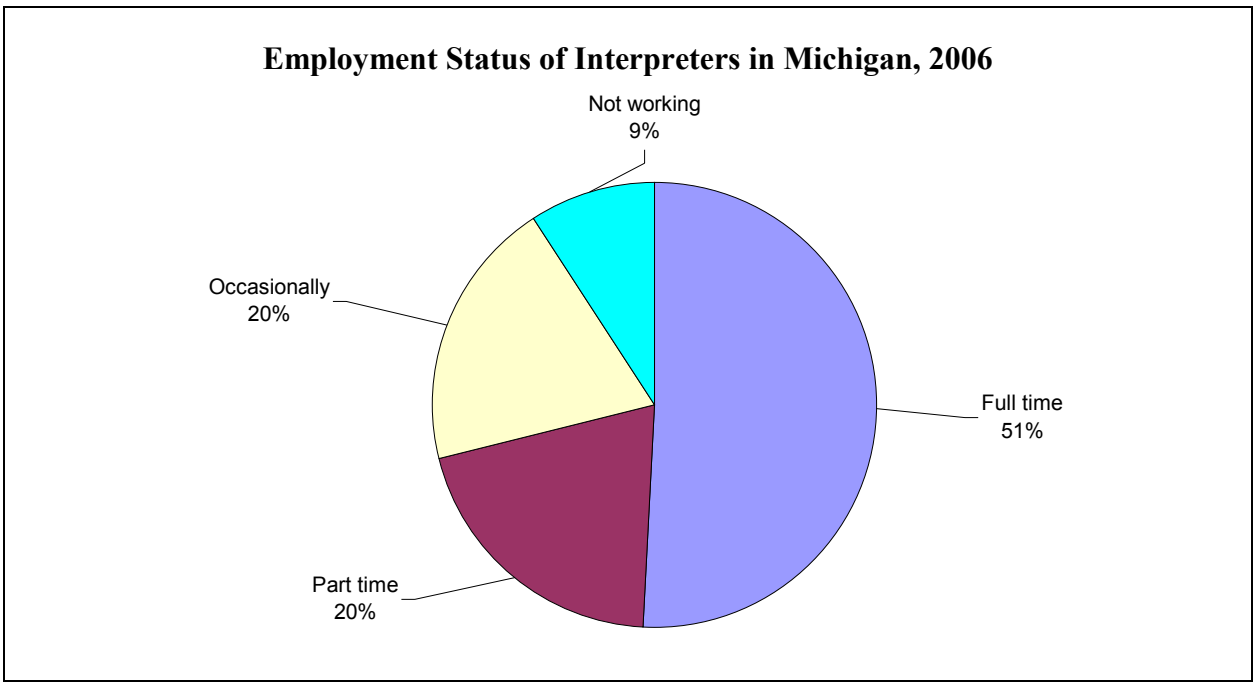

Figure 29

[14] This estimate excludes 40 individuals on mailing lists with neither an electronic nor a standard mailing address who the project team concluded no longer provide interpreting services or have severed all professional ties. This estimate also excludes 40 individuals who reside elsewhere, of which only 26 reside close enough to Michigan to be able to provide interpreting services routinely. Some out-of-state interpreters may routinely provide such services, but this information is not currently available.

Approximately 90% of all interpreters for the deaf and hard of hearing in Michigan are women, and they principally range in age from 20 to 64. It is estimated that only 6 (less than 1%) of the 652 working interpreters in Michigan are 65 years of age or older.

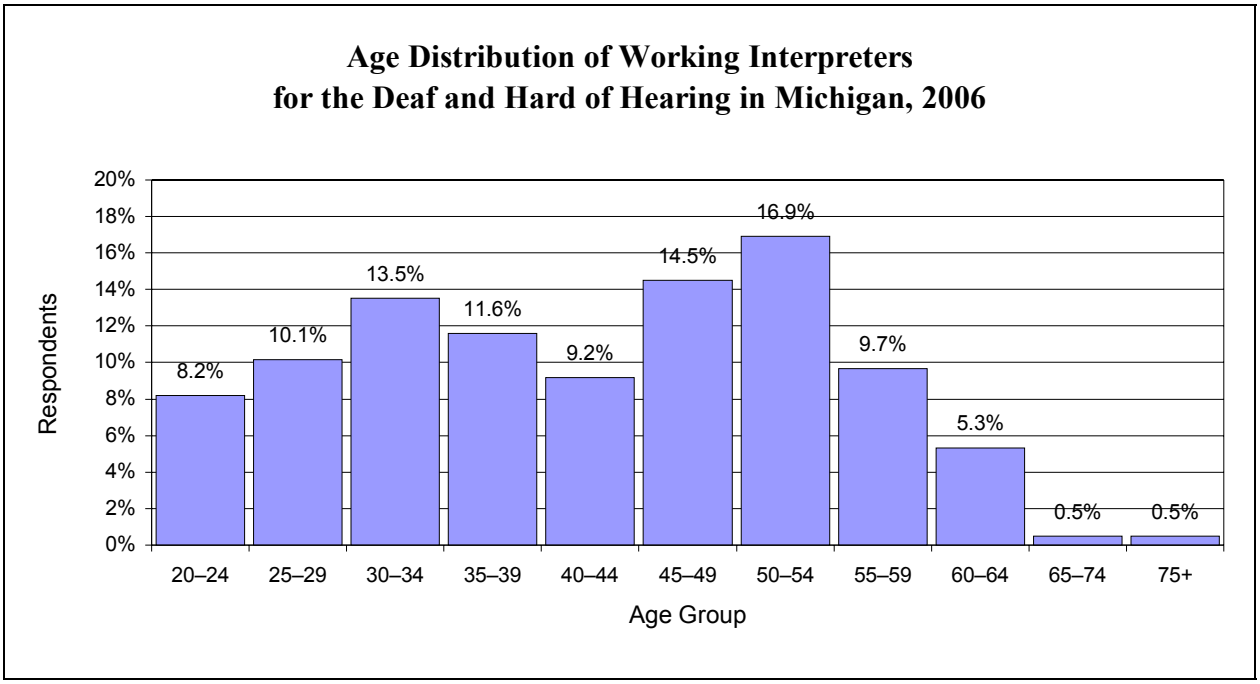

Figure 30

These figures, however, do not present a true picture of the interpreter workforce in Michigan, as those individuals who work part time and those who work only occasionally cannot be assumed to provide the same level of services as full-time interpreters. In order to get a more accurate understanding of the current availability of interpreters and how they relate to the current and future deaf and hard of hearing population in Michigan, a number of assumptions have been adopted and used to estimate the "effective" number of interpreters in Michigan.

Assumptions

- The first assumption is that the true number of interpreters for the deaf and hard of hearing in Michigan is approximately 800 at the present time. As noted earlier, the sampling frame used for this study includes contact information for 718 interpreters across the state. An additional 80 interpreters were not included in this study as contact information was not available for them or they did not reside in Michigan. The project team's assumption, however, is that these 80 additional names may be a fairly realistic representation of

interpreters who choose not to be particularly involved in professional activities in Michigan, but are nonetheless working in roughly the same proportions as the interpreters that responded to our survey. If this assumption is correct, this brings the actual number of interpreters in Michigan to 798. For simplicity and ease of calculation, the total number of interpreters is rounded up to 800.

- The second assumption is that the characteristics of the 233 respondents to the survey are reasonably representative of the characteristics and experiences of all interpreters within the state of Michigan at this time. As noted earlier, the data compiled from 233 survey respondents have a sampling error of ±6.4% within a 95% confidence interval. In other words, there is a 95% certainty that the responses to any binary or "yes-no" questions are within 6.4% of the breakdown the project team would expect to receive had the entire population of interpreters for the deaf and hard of hearing been contacted and questioned. In addition, examination of the specific quantitative data collected reveals no unusual distributions or difficult-to-explain results.

- The third assumption is that part-time and occasionally employed interpreters do not represent the same work effort as full-time interpreters. For purposes of this analysis, we have assumed that each part-time interpreter represents 0.5 full-time equivalent (FTE), and each occasionally employed interpreter represents 0.25 FTE. These ratios are arbitrary, but understandable and reasonable.

Applying these assumptions to the gross estimate of approximately 800 interpreters for the deaf and hard of hearing in Michigan produces an estimate of the *effective* interpreter workforce of 528 FTE interpreters. This figure is composed of 407 full-time employed interpreters, 81 half-time interpreters (161 interpreters at 0.5 FTE), and 40 occasional interpreters (161 interpreters at 0.25 FTE). There are also 74 interpreters who are not working as interpreters. Since they are not working, they are not counted in the estimate of the *effective* workforce, but they do represent a potential source of additional interpreters who may help fill gaps between the supply and demand for interpreters in the future.

Table 6: Weighted Estimate of the Interpreter Workforce in Michigan, 2006

Age Group	Full Time	Part Time	Occasional	Not Working	FTEs
20–24	28	9	4	7	40
25–29	60	7	-	-	67
30–34	49	11	7	7	67
35–39	49	12	3	7	64
40–44	39	12	1	18	52
45–49	60	11	6	28	76
50–54	60	9	11	-	80
55–59	46	4	4	7	54
60–64	18	5	3	-	25
65–74	-	2	-	-	2
75+	-	-	2	-	2
Total	407	81	40	74	528

An illustration of the age distribution of the *effective* interpreter workforce in Michigan is presented in Table 6, above, and Figure 31, below. Although this workforce is fairly well distributed among the age categories, there are two important factors to be noted. First, upon reaching age 65, almost all interpreters drop out of the workforce. This may be due, in part, to the opportunity for retirement for some interpreters. Regardless of the reason, however, employment of interpreters aged 65 and over is very unusual at the present time.

The second important factor is that approximately 30% of all current interpreter FTEs are between the ages of 45 and 54. These are baby boomers that will be starting to retire within the next 10 years, and when they retire, they will be replaced by smaller cohorts. It will require more of the younger interpreters who are not working or are working part time to increase their work effort to make up the potential shortfall, or it will require an influx of new interpreters entering the field to make it up. The distribution by age for interpreter FTEs in Michigan is presented in Figure 31.

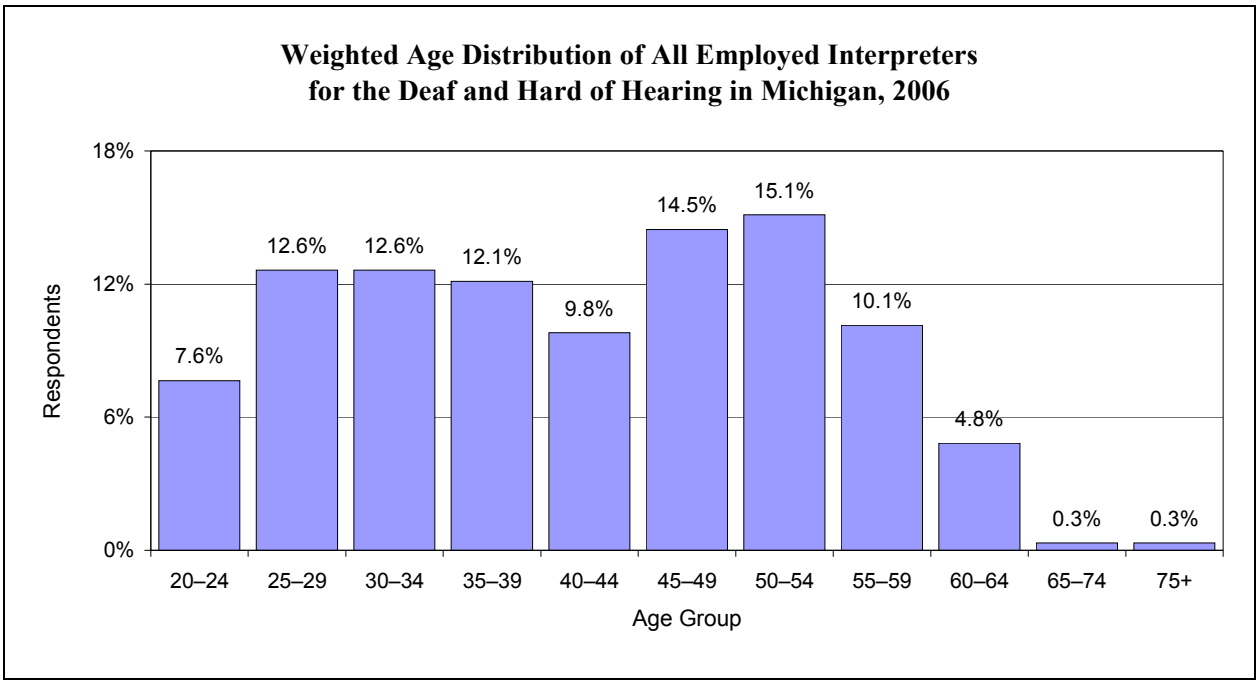

Figure 31

A third factor, one that is not related to the age distribution of interpreters for the deaf and hard of hearing, is the distribution of interpreters that work within the K-12 educational system in Michigan and those that are employed in all other settings. Approximately 43% of all interpreters in Michigan work in K-12 schools, 48% work in other settings, and 9% are not working as interpreters at the present time.

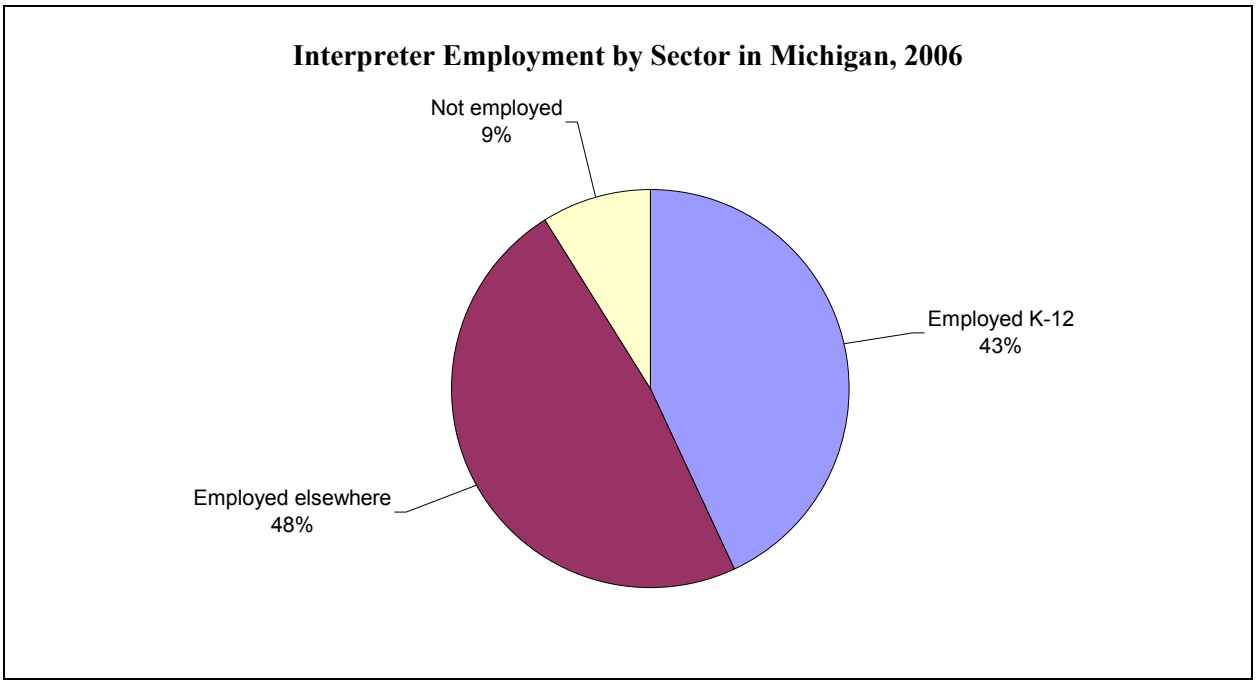

Figure 32

The final assumptions used to develop projections of the future supply of interpreters for the deaf and hard of hearing in Michigan are associated with (1) the number of new interpreters graduating from interpreter training programs (ITPs) at Madonna University, Mott Community College, and Lansing Community College over the next 25 years and (2) the work effort of these cohorts over time in terms of full-time, part-time, and occasional work. With regard to new entrants to the professional interpreter ranks in Michigan, discussions with the directors of each program indicated that an average of 65 total individuals graduate from these three programs each year. Having no clear indication that any of these programs will have the capacity to expand any time in the near future and lacking any additional information concerning the possible expansion of officially recognized ITPs in Michigan, it is assumed that this figure holds constant for each year throughout the entire projection period to 2030.

For each new cohort of five graduating classes (4 classes for the 2006–2010 period), the work effort calculations that reflect current *effective* or FTE workforce are applied uniformly. Also, as Americans are experiencing greater longevity and as it is widely anticipated that some individuals will continue to work beyond the traditional age of retirement, these figures also reflect the assumption that 10% of interpreters for the deaf and hard of hearing who are aged 65

or older in 2010 will continue to work and that this figure will grow steadily to 20% in 2015, 30% in 2020, 40% in 2025, and 50% in 2030.

Table 7: FTE Interpreters for the Deaf, Michigan, 2006–2030

Age Group	2006	2010	2015	2020	2025	2030
20–24	40	157	196	196	196	196
25–29	67	40	294	294	294	294
30–34	67	67	40	207	207	207
35–39	64	67	67	40	229	229
40–44	52	64	67	67	40	200
45–49	76	52	64	67	67	40
50–54	80	76	52	64	67	67
55–59	54	80	76	52	64	67
60–64	25	54	80	76	52	64
65+	4	3	16	40	62	64
Total	528	659	951	1,103	1,278	1,428

Based on these assumptions, it is anticipated that the number of interpreters for the deaf and hard of hearing in Michigan will grow from an estimated 529 FTEs in 2006 to approximately 1,400 by 2030.[15] As noted above, these figures reflect the distribution among full-time, part-time, and occasionally employed interpreters for the deaf and hard of hearing. If all occasionally employed interpreters for the deaf and hard of hearing in the future are routinely employed on a part-time basis, the number of FTE interpreters will be higher in the future, reaching almost 1,500 by 2030; if all occasionally employed and part-time interpreters are employed full time in the future, the supply of interpreters will reach a high of almost 1,800 by 2030, as illustrated in Figure 33.

[15] Although the figures in the tables and graphs appear to be quite precise, this precision is the product of the arithmetic calculations employed, not the forecasting method, *per se*. Except for the current-year figures, all projections should be assumed to be no more accurate than the nearest 100.

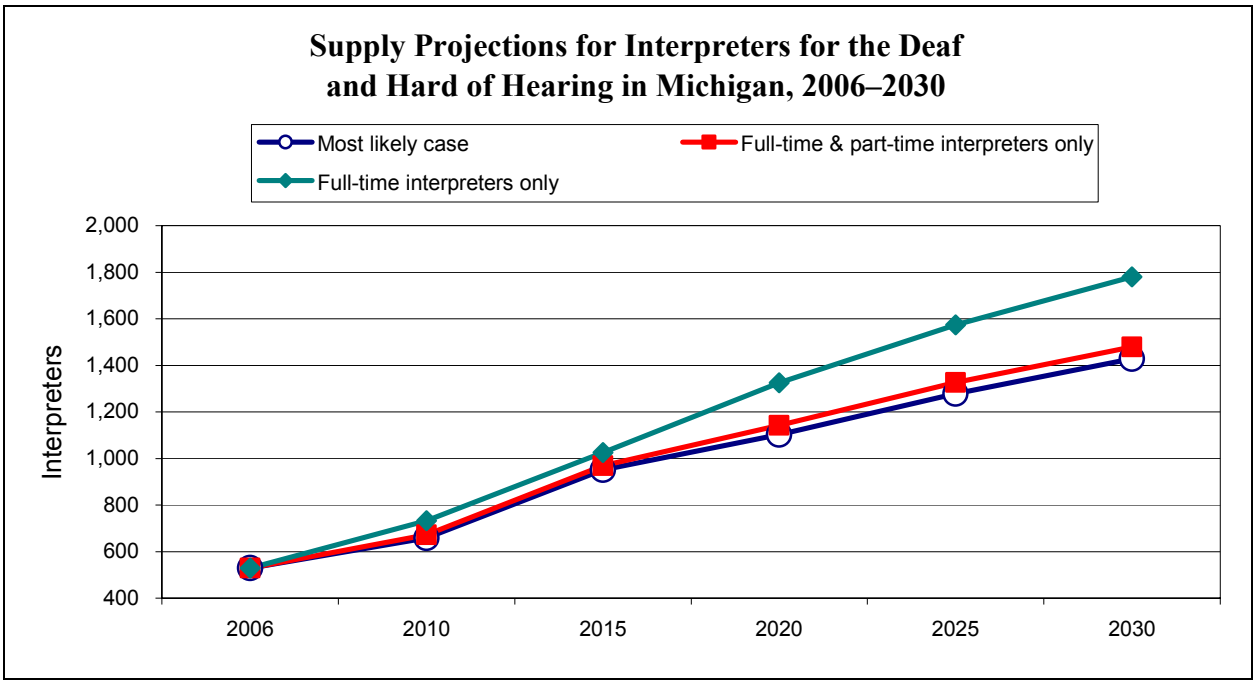

Figure 33

The most likely future scenario is the first one where it is anticipated that future work-effort patterns will closely emulate those that are currently evident in Michigan, with full-time interpreters varying from a high of 89% among those in the 25- to 29-year-old cohort to a low of 69% among those in the 60- to 64-year-old cohort.

Supply of Interpreters in K-12 Education

Currently, approximately 43% of all interpreters for the deaf and hard of hearing in Michigan are employed in K-12 educational settings, and most of these individuals are full-time employees. It is very difficult to say with precision what proportion of the anticipated number of interpreters will choose to work in K-12 education in the future, especially as the decisions regarding the availability of funding for special education needs or other policy decisions regarding education of deaf and hard of hearing children in public schools cannot be anticipated 25 years into the future. However, given current and projected rates of deafness among children, the impact of the No Child Left Behind Act (NCLB) on educating deaf and hard of hearing children in the future, and the growing competition for interpreters from video relay service (VRS), it is anticipated that the percentage of interpreters who remain employed in K-12 education will not drop below the current 43% level.

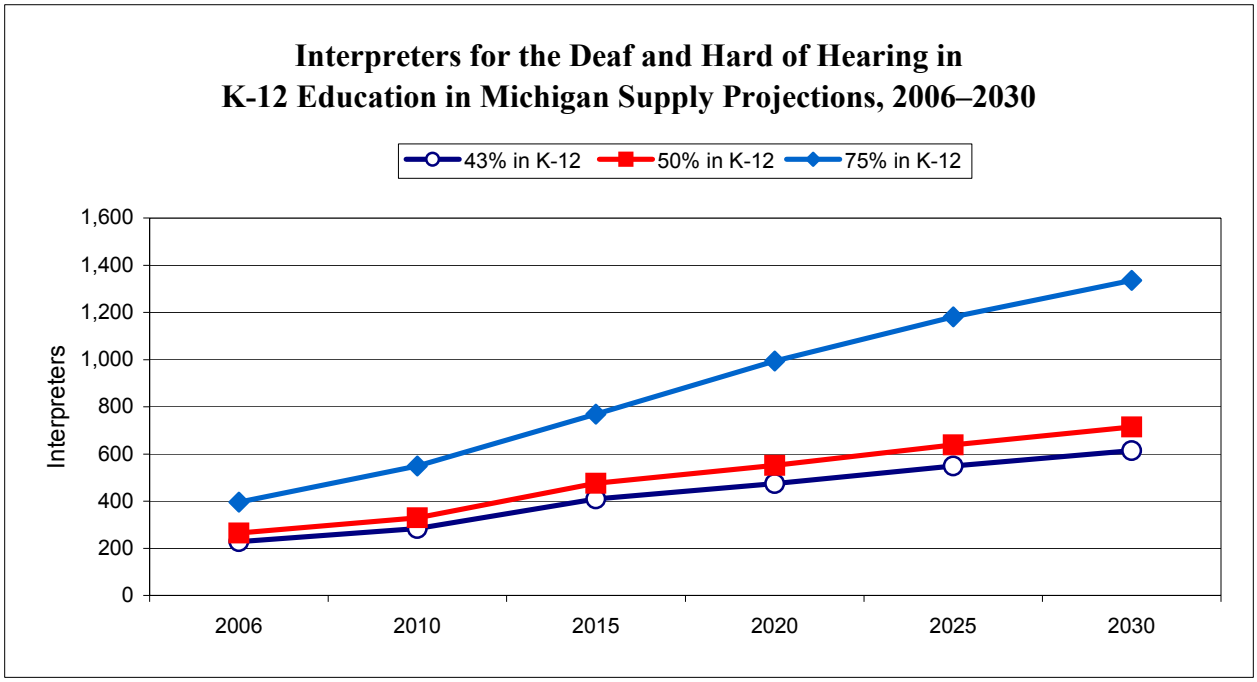

Figure 34

This projection is based on the considerations that (1) NCLB will keep attention focused on the requirement that certified interpreters be employed to work with deaf and hard of hearing children in order to help assure school administrators that deaf and hard of hearing students contribute towards meeting individual school-progress criteria, and (2) that the growing competition for full-time employed interpreters by VRS will help to sort out those interpreters who are interested in working with children in an educational setting from those who are more interested in working in other settings, but who still wish to be employed full-time and able to pursue a career. Full-time employment, higher salaries, and benefits that are becoming widely available with commercial VRS employment may even have the long-term effect of reducing some occasional or part-time work in which interpreters participate when full-time employment is not available. The availability of an alternative career ladder for interpreters for the deaf and hard of hearing that is based on professional certification, technical expertise, and broad knowledge and experience may also serve to raise the professional status and image for the whole interpreter community.

Based on the most likely scenario illustrated in Figure 33 in which FTE interpreters in Michigan grow from 529 in 2006 to approximately 1,400 in 2030, the number of FTE interpreters working in K-12 education in Michigan is projected to grow from 227 (at 43% of all interpreters) in 2006

to more than 600 in 2030. If the image and stature of interpreters were to grow in future years, as may be expected as a result of NCLB and other emerging factors, it could create a future environment in which professional interpreters typically choose one of two career paths into either K-12 education or interpreting services for all other deaf and hard of hearing individuals. At 50% of all interpreters in K-12 education, this may translate to more than 700 interpreters in schools by the year 2030.

Demand for Interpreters in Michigan

The current (2005) estimate of the number of deaf and hard of hearing people in Michigan is approximately 38,700 (see Table 4). There are also approximately 800 interpreters for the deaf and hard of hearing that are estimated to serve this population in a variety of settings. Overall, this means that there are slightly more than 48 deaf and hard of hearing people in Michigan for each of the 800 interpreters, including those who are not working as interpreters as well as those who only work occasionally or who work part time as interpreters. The most common setting for interpreters in Michigan is K-12 education, where 43% of all currently identified interpreters (344 of 800) are employed. The number of school-age deaf and hard of hearing people—i.e., the deaf and hard of hearing population aged 5 through 17—is less than 3,500 and comprise only 9% of the entire statewide deaf and hard of hearing population. These figures correspond to approximately one K-12 interpreter for every 10.1 deaf and hard of hearing children in school, assuming that the number of deaf and hard of hearing children aged 5 to 17 is a close approximation to deaf and hard of hearing children in school. It should also be pointed out that the preferred ratio of interpreters in school to deaf and hard of hearing children, according to survey data collected from a sample of interpreters for the deaf and hard of hearing across Michigan is a maximum of one interpreter for every five deaf and hard of hearing children; several indicated a preference for an even lower proportion of one interpreter for every two or three deaf and hard of hearing children.

These discrepancies are important in determining adequate and realistic estimates of the demand for interpreters for the deaf and hard of hearing now and in the future.

With the advent of VRS and other technologies coupled with the ability of numerous deaf and hard of hearing adults to communicate through the use of American Sign Language, the two dynamic elements in determining the future demand for interpreters in Michigan are the changes in the number of deaf and hard of hearing children that may be anticipated and variations in the ratio of deaf and hard of hearing children aged 5 to 17 per interpreter that is both desired and likely in the future. Figure 35, below, illustrates the potential implications of three different demand scenarios in which the number of interpreters for deaf and hard of hearing children in school varies from the current ratio of 10.1 deaf and hard of hearing children per interpreter to a more desirable level of 3 children per interpreter. All other figures are held constant.

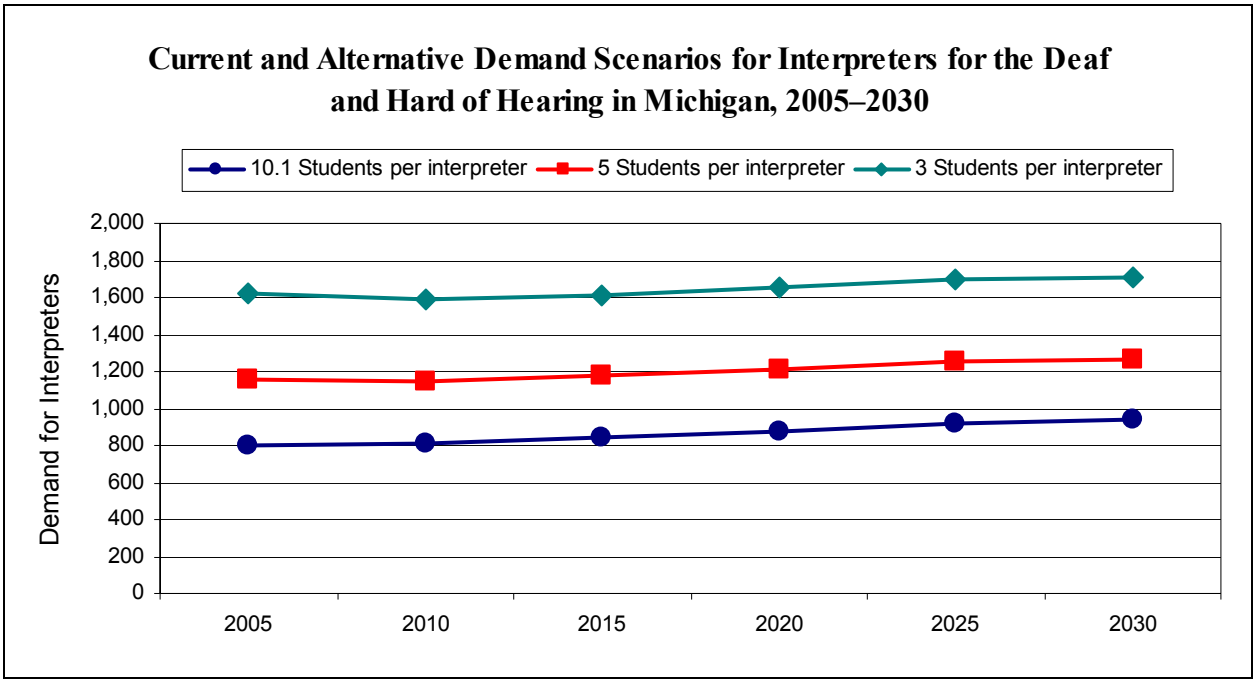

Figure 35

Based on the preceding, the demand for interpreters for the deaf and hard of hearing in Michigan may vary from a crude estimate of about 936 in 2030 with 10.1 deaf and hard of hearing children per interpreter to as many as 1,090 interpreters in 2030 with only 3 deaf and hard of hearing children per interpreter. In all three cases, the residual demand for interpreters for all adult deaf and hard of hearing individuals in Michigan would grow from 456 in 2005 to 613 in 2030.

Demand for Interpreters in Education

Figures presented earlier indicate that unless there is a change in the prevalence rate of deafness among children due to an outbreak of rubella or some other untoward event in the future that would result in children being born deaf or losing their hearing at a very young age, the number of deaf and hard of hearing children in Michigan will likely decline slightly over the next 25 years. Currently just under 3,500, the number of deaf and hard of hearing school-age children is likely to decline to just under 3,300 by 2030. This is the most likely scenario for future change in the size of the school-age deaf and hard of hearing population in Michigan and the basis for the projections of interpreter demand in the future.

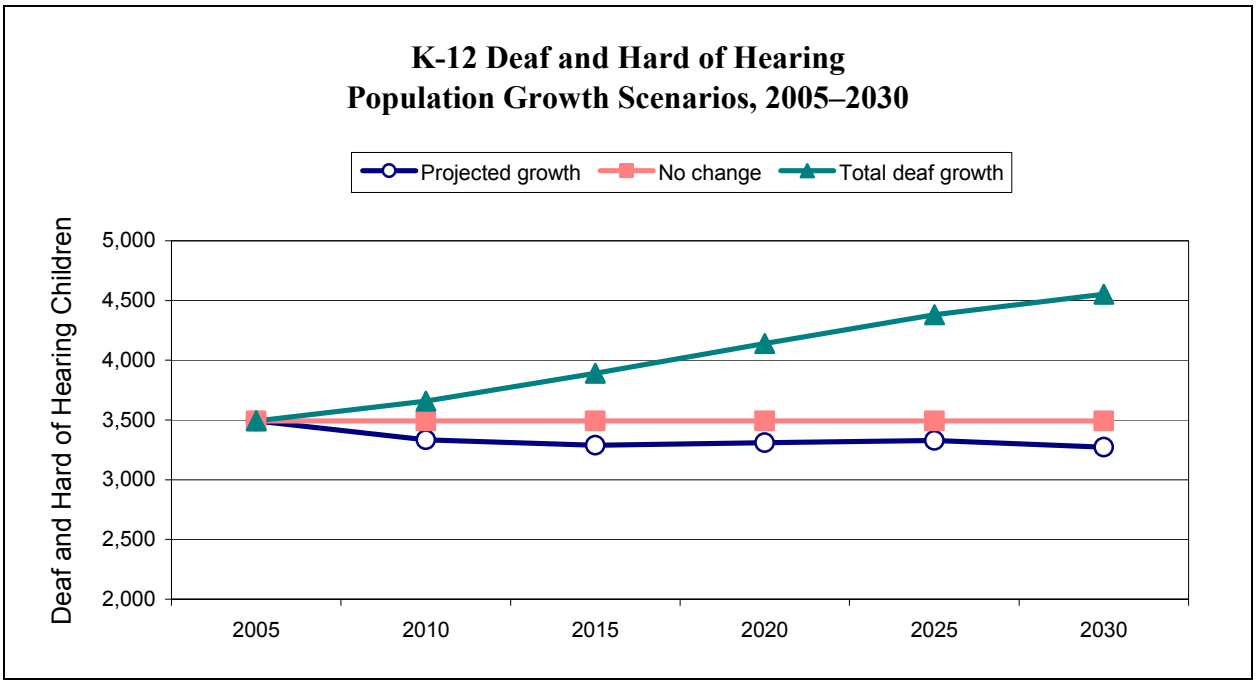

Figure 36

Two alternative projections were considered. In one case, the number of deaf and hard of hearing children was held constant for the entire period from 2005 to 2030, as seen in Figure 35, above. This results in a steady state population of 3,491 deaf and hard of hearing children aged 5 to 17 for the entire 25-year period. In the second case, the projected rate of growth for the entire deaf and hard of hearing population of Michigan was applied to the number of deaf and hard of hearing children starting in 2005 and for each five-year period after that. This model expands the number of deaf and hard of hearing children from 3,491 in 2005 to more than 4,500 in 2030, an increase of almost 1,100 or 30% over 25 years.

Both alternative projections were rejected because they are not reasonable. It is not reasonable to expect no change in any population over a period of time as long as 25 years. It is also unreasonable to expect a significant jump in the number of deaf and hard of hearing children in Michigan without being able to attribute this increase to some dynamic factor. Moreover, among interviews that were conducted with a number of key informants earlier this year, almost all of the informants indicated that they expected little or no growth in the number of deaf and hard of hearing children in Michigan over the next 20 to 25 years. In one case, a strong argument was made for a substantial reduction in the number of deaf and hard of hearing children in Michigan, as deaf and hard of hearing families are believed to be leaving Michigan for larger deaf and hard of hearing communities and centers of deaf and hard of hearing culture elsewhere in the Midwest or in the nation.

Assuming only modest change in the number of deaf and hard of hearing children in Michigan in the future, the key factor in the future demand for interpreters for deaf and hard of hearing students in K-12 education is the ratio of deaf and hard of hearing students per interpreter. As noted above, the current ratio is an average of approximately 10 students for each interpreter. Three deaf and hard of hearing students per interpreter would be close to ideal according to many of the interpreters that participated in this study, and five deaf and hard of hearing students per interpreter would be better than the current ratio. Given the joint impact that NCLB and the Educational Interpreter Proficiency Assessment will have on the future employment requirements for interpreters within individual school districts that have deaf and hard of hearing children enrolled, a goal of reducing the ratio to five to one is certainly desirable and not entirely unrealistic.

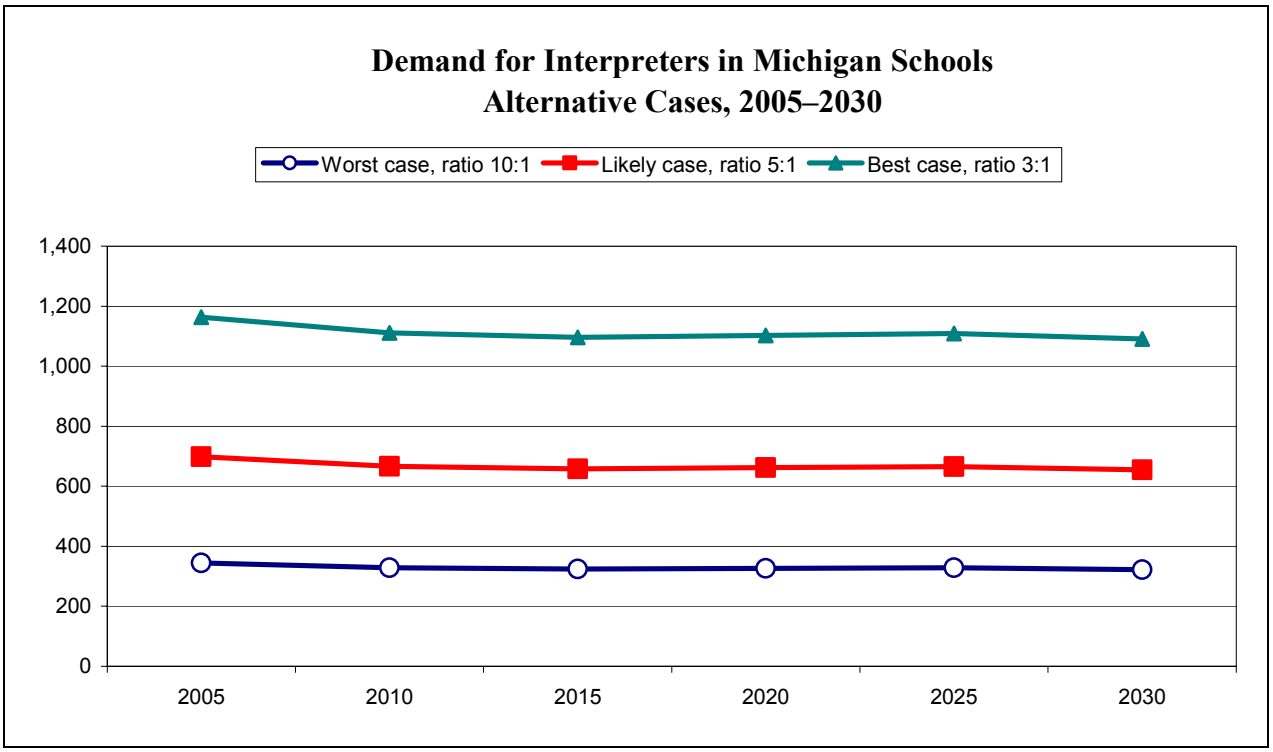

Figure 37

Supply and Demand for Interpreters in Michigan

Taking into account all of the caveats and assumptions identified in the individual supply and demand sections of this study, all of the data indicate that Michigan is currently suffering a severe shortage of well-educated and certified interpreters for the deaf and hard of hearing. Considering aging cohorts of deaf and hard of hearing people over the next 25 years—including members of the baby-boom generation and the level of deafness that is associated with the last rubella outbreak—coupled with a slowly declining younger population of deaf and hard of hearing people, the absolute demand for interpreters for the deaf and hard of hearing is expected to increase over the next 25 years. Including a desired ratio of five deaf and hard of hearing children between the ages of 5 and 17 for every FTE interpreter, the demand for interpreters is currently about 1,150 FTEs. This is expected to grow to more than 1,300 by 2030.

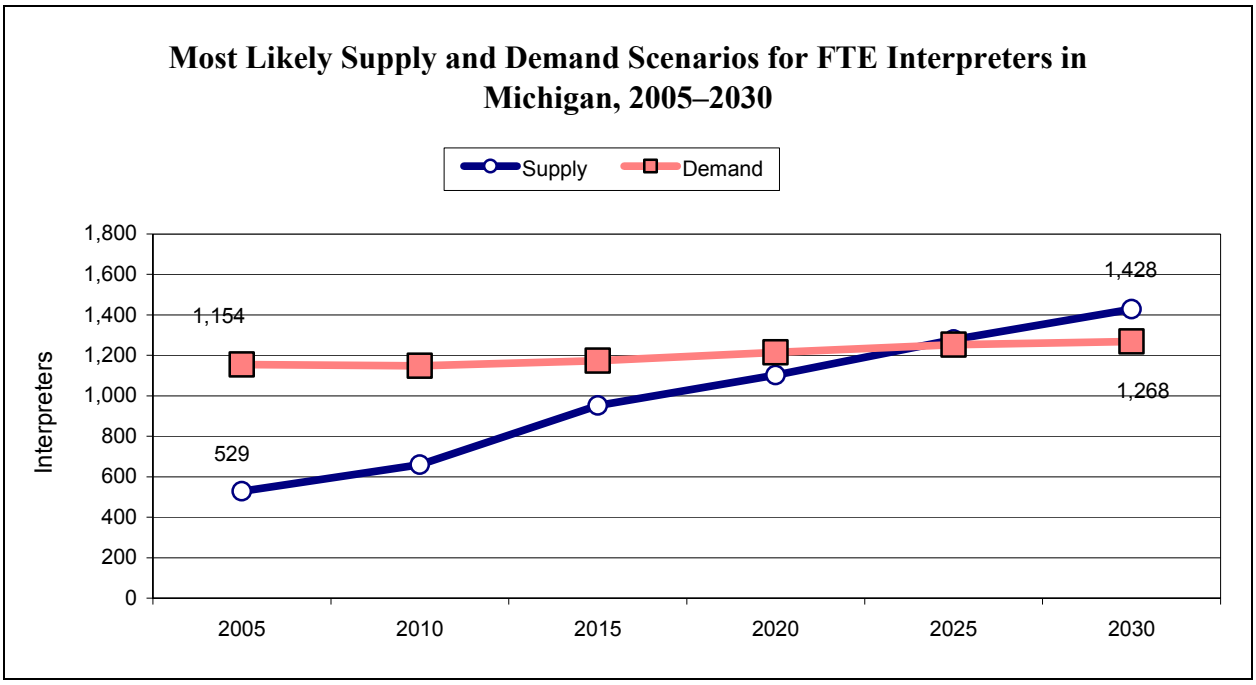

Figure 38

On the supply side, it is apparent that if Michigan's three approved ITPs continue to graduate approximately 65 interpreters each year for the foreseeable future, the shortage of interpreters that we are currently experiencing will eventually disappear. At the current rate of graduation, the projected demand for and supply of interpreters for the deaf and hard of hearing will likely reach equilibrium by the year 2025, and there will be a surplus of FTE interpreters by 2030.

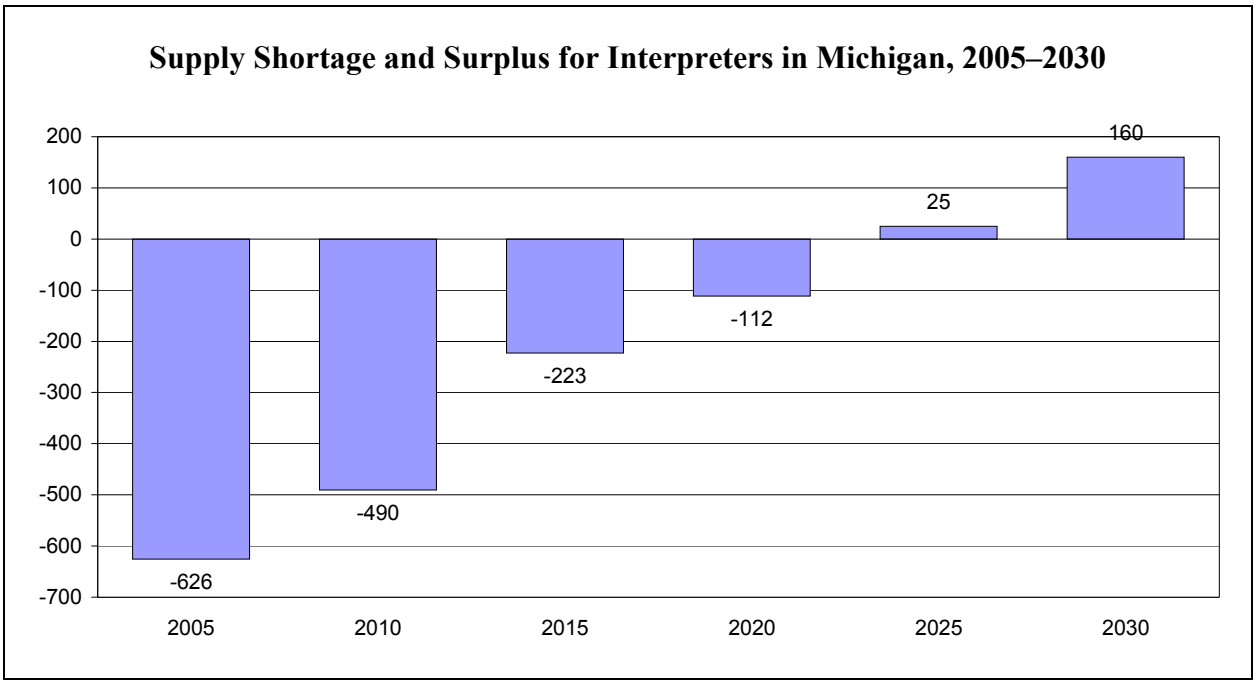

Figure 39

Demand and the Aging of the Deaf and Hard of Hearing Population

Projected demand for interpreters for the deaf and hard of hearing presented here does not take into account one additional factor that may drive the demand for interpreters even higher in the future. The aging deaf and hard of hearing population will encounter many of the same the difficulties that hearing people will encounter as they get older, including the impact of aging on health and the onset of chronic disease. As the population at large requires more health care services in later years, so will the deaf and hard of hearing population. One major difference that was pointed out during key informant interviews is the observation that few health care providers provide adequate interpreter services for their deaf and hard of hearing patients, whether they are admitted to a hospital, being examined in a physician's office, or provided with ancillary services in a laboratory or radiology office. With very few exceptions, health care providers in Michigan and around the nation do not typically employ their own interpreters and, instead, rely on commercial interpreting services or, more commonly, on a staff member who has some signing ability. As indicated by some of the individuals who provided such insight, the interpreting that is provided to deaf and hard of hearing patients is usually not adequate for the task. Even when professional interpreters are used, they rarely have the extensive familiarity with health care terminology, diagnostic services, clinical procedures, or even billing and other administrative issues in order to communicate effectively. Mistakes and misinterpretation are always

possibilities. In the case of health care information, such mistakes or miscommunication could have dire consequences.

It was also pointed out that children of deaf adults (CODAs) often no longer play the same role with their deaf and hard of hearing parents that earlier generations of CODAs did. The children of deaf and hard of hearing adults are often asked to accompany their parents for treatment and translate for them in a variety of clinical settings. In today's world, however, CODAs are less likely to be available or willing to do this as they may not live in the same community as their parents, and the growing availability of VRS has allowed deaf and hard of hearing adults to rely less on their own children for day-to-day assistance than in the past. It was also pointed out that in those cases where sensitive or confidential information needs to be passed between the health care provider and the deaf or hard of hearing patient, children of deaf and hard of hearing patients may be uncomfortable serving as the interpreter or it may be inappropriate for them to participate in these dialogues. Health care privacy regulations[16] may even deem their participation illegal in some cases. The use of new technology, such as video relay interpreting (VRI), is available but has not been widely accepted in health care settings either by health care providers or by deaf and hard of hearing patients, so far. Informants indicated that attempts to use VRI in a clinical setting is clumsy and, for the deaf and hard of hearing patient, not very desirable.

Given all these issues and the inevitable growth of an aging deaf and hard of hearing population, the demand for interpreters with knowledge and training that is particularly appropriate for health care settings will likely grow in direct proportion to the aging deaf and hard of hearing population in the future. Attempts to calculate the magnitude of that demand, however, have not been included in this project. Nonetheless, the projected demand for interpreters in Michigan would undoubtedly be higher if these additional considerations were factored in.

Supply and Demand in Education

Employment of all of the assumptions and calculations presented earlier regarding the availability of FTE interpreters for the deaf and hard of hearing in Michigan were also used to

[16] HIPAA, the Health Information Portability and Accessibility Act, is not suspended in the case of deaf patients, nor is the more traditional concept of patient-physician confidentiality.

develop projections of the potential availability of FTE interpreters employed specifically in K-12 educational settings across Michigan. The results of those calculations are presented below. Once again, the proportion of FTE interpreters in Michigan in K-12 education is currently 43%. Given the importance of meeting NCLB, Individuals with Disabilities Education Act, and Americans with Disabilities Act requirements in the schools, it is hoped that educational institutions will respond and increase their employment of interpreters to about 50% of all interpreter FTEs in the future, even with the slight decline in deaf and hard of hearing children that is anticipated over the next 25 years. The number of interpreters that will be required at the current rate (43% of FTEs) as well as the more desirable 50% rate and the wildly optimistic 75% rate are illustrated below.

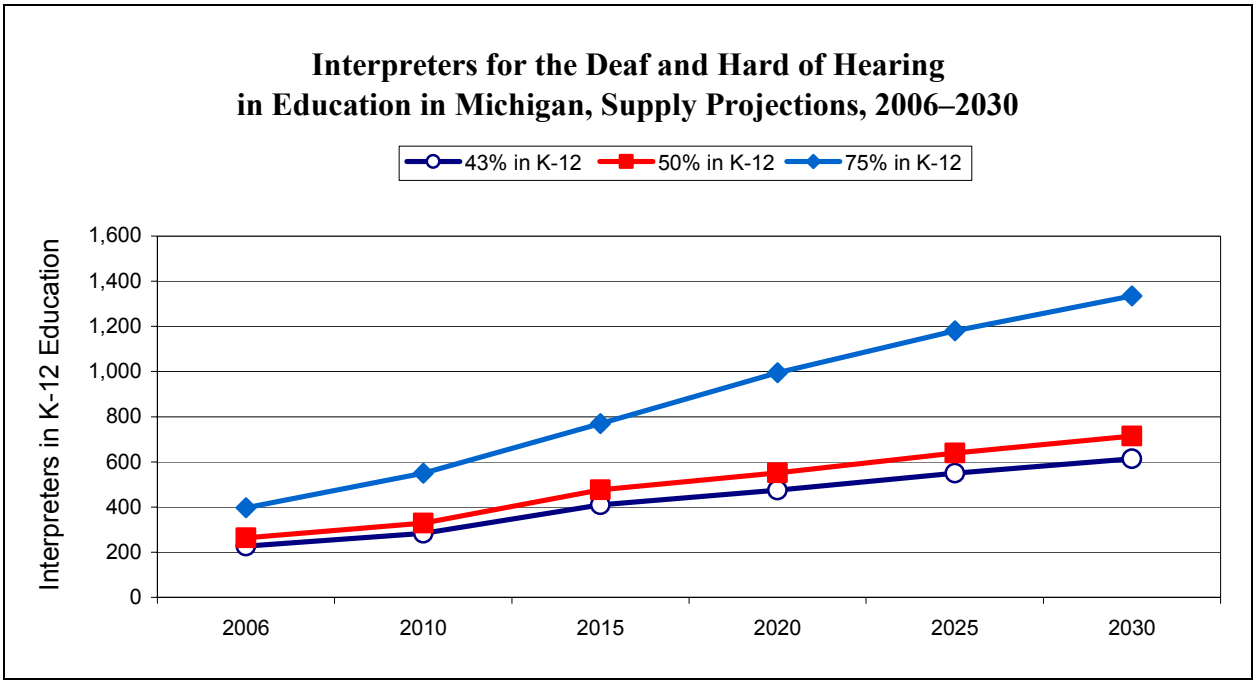

Figure 40

The worst-case scenario, given the current projections, would be a future in which only 43% of FTE interpreters (or an even smaller percentage[17]) choose to serve deaf and hard of hearing children in K-12 education in the future while educational administrators and policy makers promote much greater employment of interpreters in order to fulfill the increasing demands for all students to meet or exceed educational-progress guidelines. At these levels, demand for

[17] The requirement that all interpreters for deaf and hard of hearing children in education have at least four years of post-high school education by 2012 may reduce the supply of interpreters even more than is currently anticipated.

interpreters in Michigan will continue to exceed supply by a substantial amount for the foreseeable future. This projection would be unsustainable over the long run.

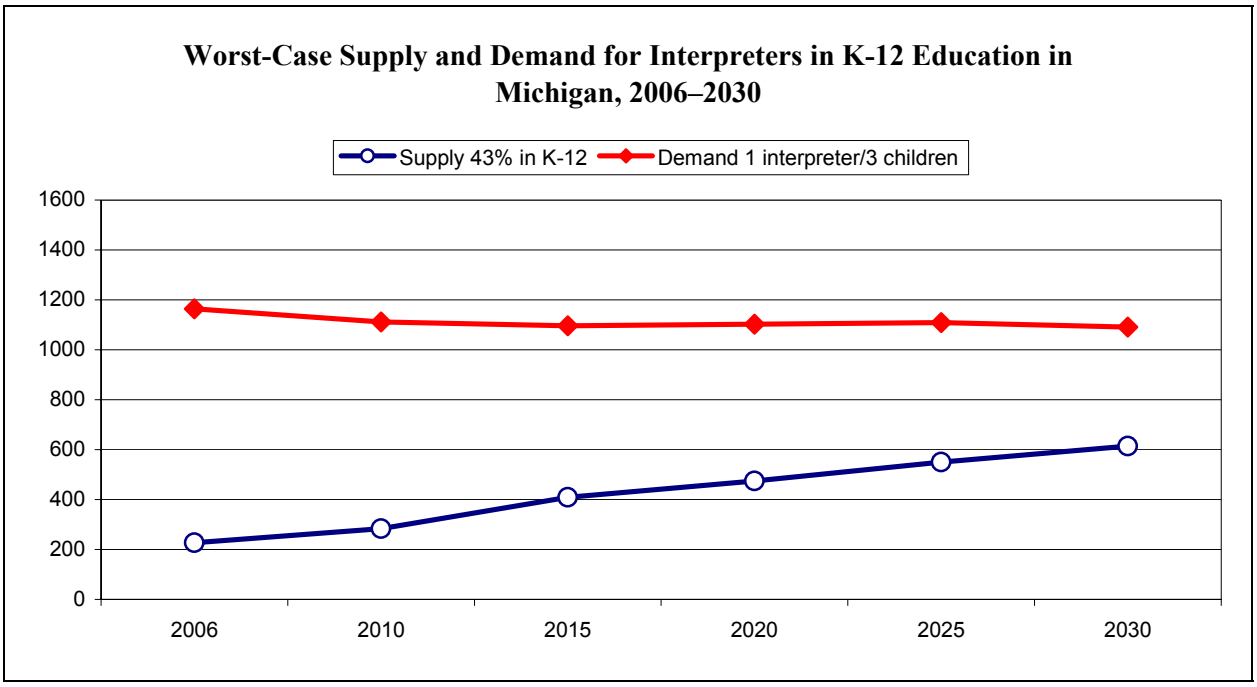

Figure 41

The most optimistic future is one in which public education in Michigan promotes extensive involvement with the education of deaf and hard of hearing children through implementation of high ratios of interpreters to deaf and hard of hearing children and the creation of large numbers of new interpreter positions in the schools to work with deaf and hard of hearing children. In response, large numbers of certified interpreters choose to fill those positions. Under these circumstances, much of the current gap between the availability of interpreters for the deaf and hard of hearing in K-12 education and the demand to have at least one interpreter for every five children would be virtually eliminated within the next five years. This scenario, too, has a very small likelihood of being fulfilled.

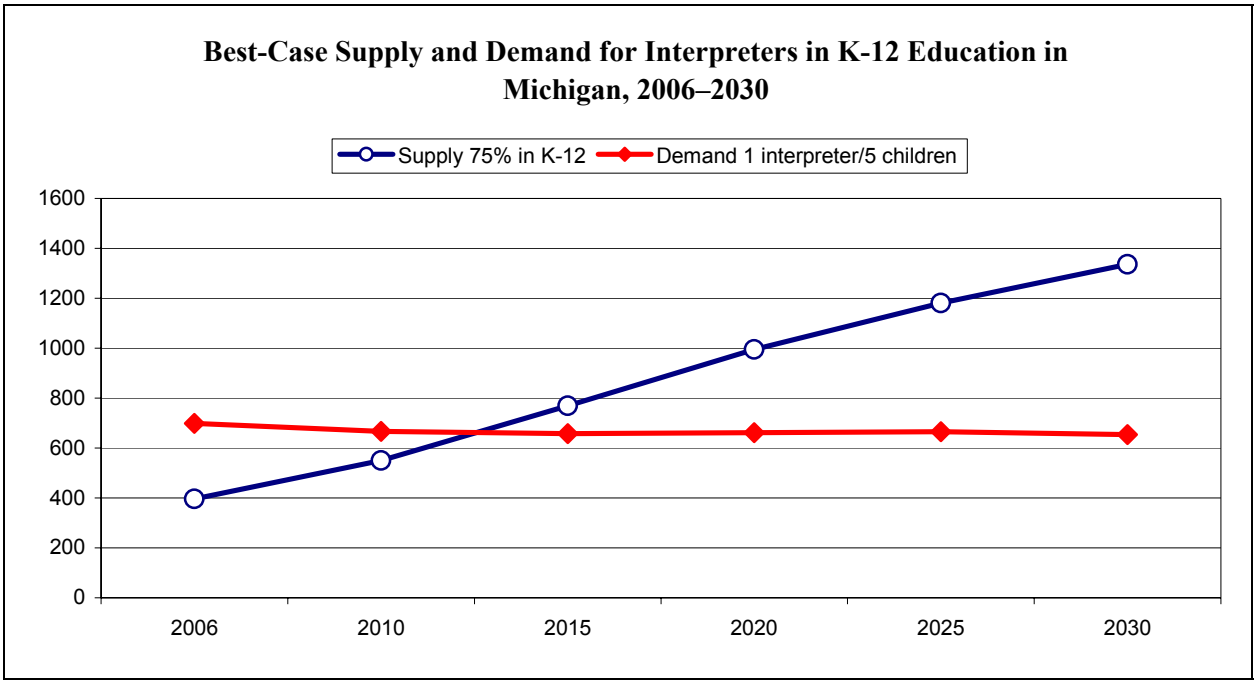

Figure 42

The most likely alternative is presented below. It is hoped that increasing emphasis on higher certification standards will resonate among professional interpreters and motivate them to prepare for and take higher-level certification exams. It is similarly hoped that the three ITPs in Michigan will respond by strengthening their programs through increased classroom and field experience among their undergraduate students and by offering additional refresher courses and other assistance to working interpreters who would plan to pursue higher certification levels. Interviews with educators in each of the ITPs revealed that they are supportive of higher standards and, in particular, that there is a need to provide their students with more internship opportunities to see and be involved in day-to-day communication with deaf and hard of hearing individuals. Several key informants also indicated that greater educational requirements and higher certification requirements may result at first in a loss of some less educated interpreters who are currently working. Should this occur, some of this shortfall may be made up by encouraging more educated and higher-skilled interpreters who are not working full time to expand their work effort.

The best-case scenario presented in Figure 42 is clearly an optimistic forecast that represents the most desirable and potentially achievable circumstances for deaf and hard of hearing children and interpreters for these children from kindergarten through high school. Nonetheless, even this

best-case scenario reflects a long period in which the demand for interpreters for the deaf and hard of hearing in education will continue to exceed the available supply by very large proportions. These projections still predict a shortfall of more than 300 interpreters in 2010, almost 200 in 2015, and more than 100 in 2020, likely resulting in many more deaf and hard of hearing students per interpreter than is generally considered most desirable among the interpreters and educators who were interviewed for this study.

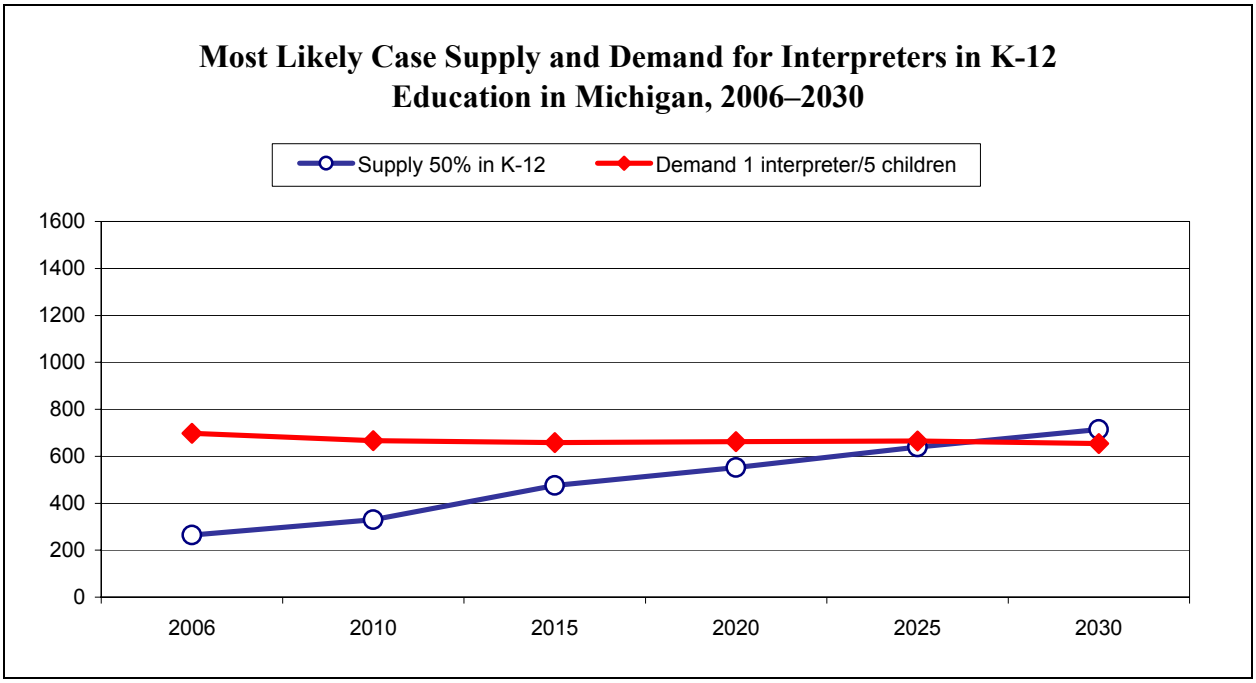

Figure 43

Conclusions and Implications

This study is concerned with the current and future supply and demand for interpreters for the deaf and hard of hearing in Michigan and consideration of the impact changes in the requirements for interpreters for the deaf and hard of hearing may have for both the supply and demand in the future. Changes in the demographic characteristics of Michigan's deaf and hard of hearing population, the emergence of new technologies and the adoption of these technologies within the deaf and hard of hearing community, and the efforts of Michigan's officially recognized interpreter training programs (ITPs) are all important influences on the future supply and the future demand for interpreters for deaf and hard of hearing people in this state. Where appropriate, these factors are identified in order to help explain the trends that have been introduced in earlier sections of this report, and they will be used to help frame the implications for the deaf and hard of hearing community and the availability of interpreters for the deaf and hard of hearing in the future.

Conclusions

The results of this study lead to five major conclusions:

1. The demand for interpreters for the deaf and hard of hearing in Michigan will continue to grow over the next 25 years despite a slow decline in the number of school-age deaf and hard of hearing children in Michigan. Factors contributing to growing demand will include:
   - The impact of the No Child Left Behind Act (NCLB), the Americans with Disabilities Act (ADA), and the Educational Interpreters Proficiency Assessment (EIPA) guidelines.
   - The expansion of video relay service (VRS) and other new communication services for the deaf and hard of hearing.
   - The aging of the deaf and hard of hearing population and the growing need for interpreters in health care settings.
2. Interpreters for the deaf and hard of hearing in the future will need to be better educated, more experienced, and have more specialized knowledge and skills, and they will be required to meet more stringent certification criteria than in the past.

3. There is a serious shortage of interpreters for the deaf and hard of hearing in Michigan, and it will take between 15 and 20 years for the supply of interpreters in Michigan to close the gap with demand.
4. Shortages of interpreters for the deaf and hard of hearing will continue to be greatest in the less densely populated rural and northern sections of Michigan.
5. Education programs for prospective interpreters for the deaf and hard of hearing will need in include more practical, "real world" experience as part of their training and their preparation for certification.

The initial conclusion is that the future demand for interpreters for the deaf and hard of hearing in Michigan will continue to grow for the foreseeable future. Despite the fact that virtually all of the population growth of deaf and hard of hearing individuals will be among adults and, in particular, older adults, the demand for interpreters working with children in K-12 education is also expected to grow. Even with flat or slightly declining numbers of deaf and hard of hearing children in Michigan schools in the future, increasingly stringent guidelines for educational progress among all students—including deaf and hard of hearing students—will require growth in the numbers of interpreters working with deaf and hard of hearing children in schools (and elsewhere) as well as more education and higher levels of certification for interpreters to qualify for work in the schools.

The growth of VRS and the aging of the deaf and hard of hearing population in Michigan will also contribute significantly to an expanded demand for interpreters beginning now and extending into the foreseeable future. VRS usage is currently only at about 10% of the deaf and hard of hearing market potential, and growth will continue as the freedom and flexibility this technology provides to sign language users within their everyday lives deaf and hard of hearing people in their everyday lives stimulates expanded usage. The lack of a fee to use this service is also helping to stimulate the use of this service and, hence, the need for growing numbers of highly qualified sign language interpreters who are available 24 hours per day, 7 days a week. The aging of the deaf and hard of hearing population and the predictable rise in the use of health care services of all sorts will also expand the demand for highly qualified interpreters as deaf and hard of hearing baby boomers age and become ill or infirm. Both of these stimuli, however, require highly qualified interpreters. The Federal Communications Commission allows only the

most qualified interpreters to provide VRS, and the demands of health care not only require qualified interpreters but will also require that interpreters have the requisite knowledge of medical terminology and health care issues in order to meet the needs of both deaf and hard of hearing patients and their health care givers.

The second major conclusion, therefore, is that all three trends that are leading to a need for more interpreters for the deaf and hard of hearing in Michigan are also leading towards interpreters who, typically, will have a better education, more experience, and more specialized skills than their predecessors.

The third, and perhaps most important, conclusion of this study is that the supply of interpreters for the deaf and hard of hearing is not large enough to meet current demands, and that this shortage will continue for the next 20 years. In the short term, the gap between the demand for interpreters and the supply of qualified interpreters in Michigan may be exacerbated somewhat as VRS providers in Michigan successfully compete for both more experienced and qualified certified interpreters as well as the most proficient newly graduated interpreters. Sorenson Communications, for example, is most eager to recruit interpreters with five to ten years of experience and who are RID (Registry of Interpreters for the Deaf, Inc.) certified to work in their Ann Arbor facility. Interpreters with Michigan QA II or QA III are also being recruited, according to informants who represent the company, and they are also hiring new graduates who they judge have a lot of potential. As mentioned earlier, Sorenson Communications provides extensive training to its employees in order to upgrade their skills and to prepare them for higher levels of certification.

Logic dictates that this recent demand for interpreters to work in a stable work environment in which interpreters are treated as professionals and are rewarded with good salaries and employee benefits will ripple through the ranks of interpreters working in other sectors of the economy, thus possibly creating even greater shortages in the schools and elsewhere. However, it should be pointed out that VRS employment in Michigan is located only in Ann Arbor and Flint at the present time, and both of these areas have relatively large numbers of deaf and hard of hearing people and fairly robust supplies of interpreters for the deaf and hard of hearing. In addition, as some key informants explained, interpreters for the deaf and hard of hearing who are employed

as full-time interpreters in the schools—especially in southeastern Michigan—often typically have steady employment, are paid regular salaries with benefits, and often choose to work in education because of their devotion to deaf and hard of hearing children. Therefore, it does not appear that large numbers of the core group of interpreters in K-12 education are migrating from education to VRS.

This is not meant to imply that there are no supply shortages or that these shortages may not get worse before they are addressed properly. Key informants indicated that some of the most serious shortages of interpreters in southern Lower Michigan occur when school districts need to replace regular interpreting staff temporarily due to sick leave, childbirth, or other temporary absences. Highly qualified interpreters to fill in these temporary openings are usually reportedly very hard to find. Finally, it should also be pointed out that despite the rapid growth of VRS, their need for interpreters is not infinite. With greater market penetration, the growth of VRS will eventually slow down, and growth in the growing demand for additional highly qualified interpreters will also slow down. Growth in demand for VRS interpreters is also limited by the fact that some deaf and hard of hearing people do not use sign language, thus making this service irrelevant for them.

The fourth conclusion is that the shortages of highly qualified interpreters in the short run will continue to be felt most profoundly in the less densely populated northern sections of the state. Deaf and hard of hearing children are often isolated in these communities and school districts have had difficulty finding certified qualified interpreters to serve their needs. In some cases, this has led to hiring of paraprofessionals who are of less qualified, less certified, and less educated than required by current state guidelines to work in classrooms with deaf and hard of hearing children. With the imposition of more stringent NCLB guidelines regarding the availability of appropriate educational services for all children, regardless of their special needs, school districts throughout Michigan will need to find and be willing to pay for more qualified interpreters. The only alternative available should qualified interpreters not be available to deaf and hard of hearing children in out-state regions will be enrollment in centralized programs within their own intermediate school district or enrollment in the Michigan School for the Deaf (MSD). School districts that do not wish to be in violation of NCLB, ADA, or EIPA guidelines

and that do not wish to lose the revenues associated with these children if they attend school elsewhere, will redouble their efforts to provide qualified interpreters.

The fifth conclusion of this study is that the future supply of qualified interpreters for the deaf and hard of hearing will have to be better educated and have more practical, "hands on" experience before they can be employed. The supply of interpreters will eventually catch up with the demand, but the elimination of this gap may take between 15 and 20 years at current rates of enrollment and graduation. As each of the directors of Michigan's ITPs pointed out, despite relatively large numbers of enrollees in their introductory classes, the increasing difficulty of higher-level courses and the need for students to immerse themselves into deaf and hard of hearing culture over time winnows those students down to only a small fraction by the end of their respective programs. A related concern among the directors of the three programs is that their graduates are not fully prepared to work as interpreters when they complete their two-year or four-year programs.[18] Each of the program directors indicated a need for additional training and experience, especially experience that could be gained mainly through an internship or a work experience equivalent to student-teaching experience.

Implications

The preceding conclusions lead to several important implications for the overall health and welfare of Michigan's deaf and hard of hearing population and, in particular, the education of deaf and hard of hearing children in Michigan schools.

- Interpreters have been important for full and equitable participation by deaf and hard of hearing people throughout American society for decades. The importance of interpreters for the deaf and hard of hearing, especially for deaf and hard of hearing students in K-12 education, will be more important than ever in the years to come. There are several reasons for this that came to light during the course of this study. Of immediate importance, but by

[18] Although Madonna University offers a four-year degree in deaf studies that includes classes in American Sign Language and deaf culture, they do not offer a four-year degree in interpreting for the deaf and hard of hearing. Programs at Mott Community College and Lansing Community College lead to two-year degrees in interpreting for the deaf and hard of hearing.

no means the only reason, is that NCLB guidelines for providing the most appropriate services for educating deaf and hard of hearing children will impose higher standards on the qualifications of interpreters for deaf and hard of hearing children in schools, and it is likely that the penalties for noncompliance will be much more stringent and more strictly enforced than ever before.

Beyond this is another factor that is partly the result of cultural changes but also partly the result of emerging technology. Key informants have made it clear that the career opportunities available to deaf and hard of hearing individuals and the career choices made by deaf and hard of hearing people today are considerably broader than in the past. One key informant, in fact, bemoaned the fact that fewer deaf and hard of hearing people are going into deaf and hard of hearing education than in the past as college-educated deaf and hard of hearing people are taking advantage of greater openness to hiring them in business, industry, the professions, and elsewhere. This is partly attributable to the ADA, but informants also attribute this largely to the advent of the Internet, cellular telephones, and the opportunities that have emerged with the availability of broadband communication.

VRS technology would not exist without broadband Internet connections, and VRS has reportedly allowed members of the deaf and hard of hearing community much greater freedom to conduct their own affairs and work with less dependence on the physical presence of interpreters for communication than ever before. Perhaps even more important is the availability of e-mail and text messaging using new broadband technologies. E-mail was mentioned by informants several times as, perhaps, the most important technological innovation that has contributed to integrating deaf and hard of hearing people into a variety of new work settings and industries. In addition to that, text messaging on mobile phones or personal digital assistants allows deaf and hard of hearing people the same flexibility to communicate without relying solely on a hard-wired communication devices. Mobile telephones with integrated QWERTY keyboards are becoming more prevalent and contribute to this phenomenon.

The ability to acquire employment in more diverse settings where these devices help deaf and hard of hearing people communicate more effectively and, ultimately, achieve the same

levels of success as hearing people, however, requires greater educational preparation. For the majority of deaf and hard of hearing students in Michigan who do not and will not attend the MSD, a larger number of more highly qualified interpreters and more skilled interpreters within individual school districts or the intermediate school district will be needed if (1) the schools hope to remain in compliance with the new NCLB and EIPA guidelines, and (2) they are to fulfill their obligation to provide deaf and hard of hearing children with the same level of education they provide other children in order will need to qualify for college and employment.

- The second implication is that interpreters for the deaf and hard of hearing will continue to be important intermediaries between deaf or hard of hearing people and hearing people despite the increasing availability of new technologies. Beyond the obvious need for additional interpreters to provide VRS interpreting at all times, VRI services that provide remote access to interpreting services on demand will likely require additional interpreters as this technology gains greater acceptance. In addition, there will still be a need for well-trained and highly skilled qualified interpreters to work on site in many settings where technology is not necessarily the best alternative or where more personal or intimate interpreting is required. Such settings include social and cultural events, sporting events, counseling and educational meetings with students and/or their parents, business meetings, and, as noted earlier, in the provision of health care services. The equal access provisions of the ADA require interpreting services be made available to hospital patients who are deaf or hard of hearing, and a few hospitals—including the University of Michigan and the University of Wisconsin—have responded to that requirement by establishing interpreting services for deaf and hard of hearing people with regularly employed staff members who provide interpreting services during regular business hours and who are on call to provide services during off hours. As explained by one hospital official, VRS and VRI services are not available in most hospital settings due to the lack of broadband connectivity in such important locations as the emergency department or the obstetrical department. In addition, some deaf and hard of hearing people and some health professionals indicated that VRI technology may not be practical or effective for people deaf patients who are in the process of childbirth or are exhibiting symptoms that may interfere with communication. Due to the importance of health care services for our aging baby-boom population, it is possible that health care

delivery environments—including hospitals, physicians offices, and ancillary health services—may become a highly visible stage for promoting equal access to services for deaf and hard of hearing people and, thus, an important growth area for sign language interpreters.

- The third implication of the findings presented throughout this study is that there is a critical need to expand and improve the education and training of interpreters for the deaf and hard of hearing in Michigan. Interpreter and deaf studies programs in Michigan currently produce about 65 graduates each year from an original pool of 700 interested freshmen.[19] The current demand for interpreters and the supply and demand projections presented earlier indicate that it will take at least 20 years if the equivalent of 65 new interpreter and deaf studies interpreters graduates enter the workforce each year in order to bridge the gap between interpreter supply and demand, and this assumes that all of the graduates between now and 2011 have earned at least a two-year degree, and graduates from 2012 on have earned a four-year degree, and all of them have gotten additional training and experience that allow them to be certified at the Michigan QA II level or higher.

  ASL is already being taught in a number of high schools in Michigan and in many of the two-year colleges and four-year universities, but this training is inadequate to the task. Classes in ASL and related topics are also being taught at Oakland Community College, but this program is not yet recognized by the State of Michigan as an interpreter training program. What will be needed over the next six years is the expansion of the existing three programs in Michigan to accommodate more students who may be interested in pursuing a career in sign language interpreting, or the establishment of at least one new state-approved interpreter program. In either case, this will only be a stop gap, as the requirement for all interpreters to have a four-year degree[20] in addition to a relatively high-level certification by the year 2012 will change the educational environment for educating interpreters. One educator suggested that all two-year programs be changed from terminal programs to feeder programs for Michigan's one four-year program (at Madonna University). Others agree, but

[19] As noted earlier, the four-year Deaf Studies Program at Madonna University is not an interpreter training program *per se,* but these graduates are included in these figures as they are required to learn American Sign Language (ASL) and some interpreting skills, and many of these students pursue careers in providing services to deaf and hard of hearing people.

[20] The requirement of a four-year degree does not specify that the degree be in deaf studies, interpreting for the deaf, deaf education, or the like. A degree in any subject matter will technically meet this criterion.

qualify this by indicating that the program at Madonna University also be upgraded to be a full-fledged four-year interpreter program. Regardless of the specific recommendations that are being made for Michigan's three recognized programs, the need for additional interpreters and the need to meet the four-year degree requirement by 2012 will require more faculty, larger facilities, and more funding in the very near future.

Suggestions for improving the education of interpreters for the deaf and hard of hearing that were provided by key informants almost universally indicated a need for more practical experience or more practice communicating with deaf and hard of hearing people. ITPs use video systems to assist students to learn and practice ASL, but informants emphasized that the time their students devote to communicating using ASL before graduating is neither long enough nor intense or "real" enough for most new graduates to be very effective or to achieve most certification standards. More than one educator suggested that all interpreting students be required to participate in an internship under the direct supervision of an experienced interpreter or that a semester similar to a student-teaching assignment be required of all interpreting students. Another educator suggested that interpreting students need to spend more time socializing with deaf and hard of hearing students so they can become more comfortable signing and communicating in natural, day-to-day settings and situations. Student experience in an "all-deaf" environment such as the MSD is another suggestion. It was noted that while some students in Michigan interpreting programs may visit MSD for a day. In contrast, interpreting students from Ohio routinely spend a week at MSD and immerse themselves in the activities and culture that is present there.

Regardless of the specifics, however, there is great consensus among the key informants that Michigan needs a greater number of and, more important, better qualified interpreters for the deaf and hard of hearing than ever before. Existing educational programs need to be expanded and improved in Michigan in order to graduate more interpreters and more highly qualified interpreters, and Michigan schools must be committed to hiring additional and better qualified interpreters if we are to provide equal access to education and, ultimately, equal opportunity for employment and economic advancement to all deaf and hard of hearing young people throughout the state. Moreover, the need for highly qualified interpreters will

be even greater in future years if Michigan is going to encourage full and equal participation by deaf and hard of hearing people in all aspects of our society.

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Initials Used in This Report

ASL	American Sign Language
AYP	adequate yearly progress
CODAs	children of deaf adults
DODHH	Division of Deaf and Hard of Hearing
EIPA	Educational Interpreter Proficiency Assessment
IDEA	Individuals with Disabilities Education Act
IEP	individualized education program
ISD	intermediate school district
ITP	interpreter training program
LCC	Lansing Community College
LEA	local education agency
MARSE	Michigan's Administrative Rules for Special Education
MDE	Michigan Department of Education
MSD	Michigan School for the Deaf
NCHS	National Center for Health Statistics
NCLB	No Child Left Behind Act of 2001
NHIS	National Health Interview Survey
OCC	Oakland Community College
PDA	personal digital assistant
RID	Registry of Interpreters for the Deaf, Inc.
SIPP	U.S. Census Bureau's Survey of Income and Program Participation
TTY	Tele Typewriter
VRI	video remote interpreting
VRS	video relay service
ZIP	Zone Improvement Program

Appendix A: Interpreter Survey Instrument

Draft Survey of Interpreters for the Deaf in the State of Michigan

INSTRUCTIONS:

Marking Instructions

- Use a number 2 pencil or black or blue ink pen only.
- Make dark marks that fill the bubble completely.
- Erase cleanly any mark you wish to change.
- Make no stray marks.

Correct Mark ● Incorrect Marks ⊘ ⊗ ⊖ ⊙

1. **Please answer each question to the best of your ability.**
2. **Answer the survey questions based on your personal knowledge and experience.**

Demographics

1. Your gender:

   ○ Male
   ○ Female

2. Age: _____

3. Zip code where you live: _____

4. Zip code or city where you mostly work: _____

5. In what capacity do you currently work as a sign language interpreter:

   ○ **Full time (30 hours or more per week)**
   ○ **Part time (less than 30 hours per week)**
   ○ **Occasionally**
   ○ I am not currently working as an interpreter (end survey)

Interpreter Education

6. Are you a graduate of an Interpreter Training Program (ITP)?

   ○ Yes
   ○ No (skip to question 9)

7. Where did you graduate from?

   ○ **Lansing Community College**
   ○ **Madonna University**
   ○ **Mott Community College**
   ○ Other (please specify) _____

8. What is your highest degree earned in interpreter training? (skip to question 10)

- ○ **Associate**
- ○ Bachelor
- ○ Master
- ○ Doctorate
- ○ Other (please specify) _____

9. Are you currently enrolled in an ITP?

- ○ Yes Where? _____
- ○ No

10. Have you had training on: (check all that apply)

- ○ **Interpreting for Deaf/Blind people**
- ○ Oral interpreting
- ○ Video relay interpreting
- ○ Cued speech interpreting
- ○ Other (please specify) _____

11. What is your current certification level? (select all that apply)

RID

CI	CT	CDI	CSC	OTC	SC:L
○	○	○	○	○	○

NIC

NIC	NIC Advanced	NIC Master
○	○	○

NAD

5	4	3
○	○	○

EIPA Level

1	2	3	4	5
○	○	○	○	○

MI-QA

III	II	I
○	○	○

None

None

O

Other: _____

Employment

12. Are you currently working as an interpreter?

- O **Yes**
- O **No (explain nonemployment circumstances and end survey)**

  If NO, why not? (describe)

  _____

13. What is your current average hourly pay rate: _____

14. What was your total 2005 annual gross interpreter-related income? _____

15. Are benefits (health insurance, dental insurance, sick leave, etc.) provided as part of your compensation as an interpreter?

- O **Yes, full benefits**
- O **Yes, partial benefits (describe)**

  _____

- O **No**

16. Do you have liability insurance?

- O Yes
- O No (skip to question 18)

17. Who supplies and pays for it?

- O **Supplied by employer and paid by employer**
- O Supplied by employer but paid for by individual interpreter
- O Self-provided
- O Other (please specify) _____

18. In which of the following sectors have you worked as an interpreter? (check all that apply):

- ○ **Educational (K-12)**
- ○ Educational (Postsecondary)
- ○ Industry/business
- ○ Medical
- ○ Financial
- ○ Court/legal proceedings/law offices
- ○ Religious
- ○ Government appointments
- ○ Government meetings
- ○ Police
- ○ Jail/prison
- ○ Video Relay Service (VRS)
- ○ Video Interpreting Service (VIS)
- ○ Information technology
- ○ Mental health/counseling
- ○ Theater
- ○ Conferences
- ○ Public events
- ○ Music
- ○ Other (list): _____

19. Which of the sectors in question 18 serve as your <u>most frequent</u> work setting (please rank up to 3).

_____

_____

_____

20. Do you work with Deaf/Blind people?

- ○ Yes
- ○ No

21. Do you work for an interpreter referral agency?

- ○ Yes Name of Agency(s): _____
- ○ No

This Section Is for Interpreters Who Work in K-12 Education Only

Employment in Education

22. Do you currently work full- or part-time in a school?

- ○ **Full time**
- ○ **Part time**
- ○ **Not currently working (end survey)**

23. What school district(s) do you work in?

_____

_____

24. What is your title(s)?

_____

_____

25. Do you belong to a union?

- ○ **Yes Union name:_____ Classification: _____**
- ○ **No**
- ○ **I don't know/unsure**

26. How long have you interpreted for K-12 schools? _____

27. Approximately how many students do you interpret for each week? _____

28. Approximately how many hours per day do you spend with each student? _____

29. Do you work with students in mainstream or full-inclusion classrooms?

- ○ **Yes, all of the time**
- ○ **Yes, part of the time**
- ○ **No, not at all**

30. Do you work with students in special education classrooms?

- ○ **Yes, all of the time**
- ○ **Yes, part of the time**
- ○ **No, not at all**

31. Do you interpret for students in activities outside of the classroom (e.g., extracurricular activities, clubs, school events, etc.)?

- ○ **Yes**
- ○ **No**

32. Do you do vocational interpreting?

- ○ **Yes, all of the time**
- ○ **Yes, part of the time**
- ○ **No, not at all**

33. Do the classroom teachers or school staff you interpret for expect you to provide any services other than interpreting (e.g., classroom aide, filing, discipline, recess monitor, prep time, etc.?

- ○ **Yes (please describe below)**
- ○ **No**

33a. What kinds of other services do you provide?

_____

_____

34. Do you provide extra academic support for the students you interpret for?

- ○ **Yes**
- ○ **No (skip to question 36)**

35. Please check all that apply:

- ○ **Tutoring deaf or hard of hearing student**
- ○ **Teaching ASL to students or school staff**
- ○ **Collaborating with classroom teacher about best approach to teach deaf student**
- ○ **Other (list): _____**

36. How, if at all, has the No Child Left Behind Act changed school interpreting for you?

_____

_____

_____

37. In your opinion, are interpreter services for deaf students meeting the needs of deaf students in the school(s) where you work?

- ○ **Yes, interpreter services are adequate in the schools where I work**
- ○ **No, interpreter services are not meeting the needs of deaf students where I work**

37a. If answered NO above, please describe what more is needed

_____

_____

_____

38. In your opinion, what recommendations do you suggest for:

a) Training and certification requirements for interpreters in K-12 education?

_____

_____

b) Workload (i.e., number of students per interpreter) in K-12 education?

_____

_____

c) Workplace responsibilities and activities for interpreters in K-12 education?

_____

_____

d) The use of technology (new technologies or existing technologies) by interpreters in the K-12 education setting?

_____

_____

e) Any other aspect of work conditions for interpreters in K-12 education?

_____

_____

f) Professional development provided by school?

_____

_____

g) Training for your supervisor?

_____

_____

39. Do you have any other comments concerning interpreters for the deaf and hard of hearing in Michigan's K-12 educational system?

Thank you for completing this survey. Your time and cooperation are greatly appreciated.

Please return completed surveys to:

Matt Boyd
Public Policy Associates, Incorporated
119 Pere Marquette Drive, Suite 1C
Lansing, MI 48912-1231

Appendix B: Key Informant Interview Schedule

INTERPRETERS FOR THE DEAF SUPPLY & DEMAND

KEY INFORMANT INTERVIEWS – Government and Education

I. Background Information

Name
Title
Organization
Qualifications

II. Assess the Deaf & Hard of Hearing Population in Michigan [present current estimates]

1. Present current estimates of the number of hearing impaired in Michigan schools & for the entire population.
    a. Are these figures realistic?
    b. Are these figures too high, too low?
    c. Who is being missed?
    d. Are there any geographic concentrations of the deaf & HH in Michigan?

III. Interpreters for the deaf in the schools (K-12)

1. How do schools typically employ interpreters for the Deaf and Hard of Hearing?

    a. Full-time/Part-time, ratio of interpreters to students

    b. What services do they provide?—
        i. e.g., do they provide interpretive services for students? teachers? Other employees?
        ii. Probe re services provided
        iii. What level of certification is required, if any?
        iv. Are there enough interpreters to meet needs?
        v. If not, why not?

2. What are the most pressing needs of the deaf and HH in education?
    a. Are these needs being met?
    b. What needs to be done to meet these needs?
    c. What barriers or obstacles does your school(s) face in meeting these needs?
    d. If there are barriers, what are the bases of these barriers?
        i. Financial limitations
        ii. Availability of qualified interpreters
        iii. Variability in demand
        iv. Work rules (flexibility – inflexibility)
        v. Other

3. How do you think that the No Child Left Behind Act is affecting services to the deaf and hard of hearing population in Michigan?
    a. Any change in the availability of interpreters?
    b. Any change in certification of currently available interpreters?
    c. What are the schools doing in response to NCLB re certified interpreters?
    d. Any other changes?

IV. Interpreters for the deaf in other settings (not K-12)

1. Does your organization currently employ interpreters for the deaf and hard of hearing?
    a. If yes--
        i. How many?
        ii. Part-time/Full-time
        iii. What services do they provide? [see above re interpreting for customers, employees, both]
        iv. What standards of certification are the interpreters required to meet?
        v. How has this changed over time?
    b. If no—
        i. Why not?
        ii. Have there been circumstances in the past when interpreters for the deaf were employed? Please explain
        iii. _____

        _____

        i. Are there circumstances in which interpreters for the deaf should be employed (or will be employed)? Please explain

        _____

        _____

IV. Perceptions About Trends in Deaf and HH Population and Number of Interpreters

1. What is your perception of the current trends in the deaf and hard of hearing population, e.g., are the deaf and hard of hearing growing, declining, staying about the same? Probe
    a. What changes (if any) do you anticipate in the future?
        i. Change in number of deaf & hard of hearing population overall
        ii. Change in number of deaf & hard of hearing students
        iii. Change in the number of interpreters for the deaf and hard of hearing.
    b. To what do you attribute these changes?

V. Opinions Based on Your Professional Expertise & Knowledge

1. What in your opinion are likely to be the most pressing needs for interpreters in the future (e.g. 5 to 10 years)?

2. What changes, if any, do you believe should be made in the way interpreters are trained in Michigan? Probe for explanations, examples.

3. Should interpreters for the deaf that are employed in K-12 education or government be certified?
    a. If YES—
        i. please describe the certification system that you prefer
        ii. what level(s) of certification should be required? Probe for distinctions based on responsibilities, setting, etc.
        iii. alternatively, if you are unfamiliar with certification systems, describe the level of expertise you believe is required within K-12 education and/or government
    b. If NO—why not? Probe

4. Who should be responsible for making sure that adequate numbers of interpreters are available in Michigan? (e.g., business and industry, K-12 educational system, higher education, state government, federal government, the deaf community, others?)

5. What role, if any, should technology play in creating greater access to certified interpreters; providing needed services to deaf and hard of hearing children and adults in Michigan? Probe for examples.

6. What else could be done to address interpreter needs of the deaf and HH in Michigan?

Thank the informant for his/her participation.

-- END –